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THE  
INTELLECTUAL & MORAL  
DEVELOPMENT  
OF THE PRESENT AGE  
BY  
SAMUEL WARREN Q.C. F.R.S.



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THE  
INTELLECTUAL  
AND  
MORAL DEVELOPMENT  
OF  
THE PRESENT AGE

BY  
SAMUEL WARREN, F.R.S.

ONE OF HER MAJESTY'S COUNSEL, AND RECORDER OF HULL

"Within, without, and far around he look'd—  
How fair ! quoth he, how dread."

—THE PILGRIM

SECOND EDITION



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## P R E F A C E.

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THE origin of this little work is indicated in a passage which may be seen near the commencement.

It would be unbecoming in the Author to print a copy of the too flattering Resolution of the President and Council of the Hull Literary and Philosophical Society there referred to, and partly in consequence of which, the paper in question, somewhat modified and amplified, is now presented to the public. It treats of subjects which have occupied his thoughts for many years; and all he begs to be given credit for, is a good intention. For the rest, he must surrender himself to criticism with what fortitude he may.

Two-thirds of the paper were read on the evening of Tuesday, the 28th December 1852, and listened to with an attention amply repaying the Author's efforts to present an extensive and difficult subject, in an acceptable manner, to a mixed and very large audience.



A deputation, in considerable numbers, from the Mechanics' Institute of Hull, formed part of that audience, in pursuance of a liberal and friendly invitation from the President and Council of the Literary and Philosophical Society : a circumstance which afforded the Author peculiar gratification.

INNER TEMPLE, LONDON,  
*January 1853.*

MR PRESIDENT,

AND LADIES AND GENTLEMEN,

I HOPE that the special relation in which I stand towards this populous borough, and its ancient town and corporation\*—a town which has numbered among those of its citizens the noble names of Andrew Marvel, and William Wilberforce—will, together with a fact which I shall presently mention, satisfactorily account for my appearance before you this evening, in a position to myself at once new, and responsible. As a member of the Bar, and also exercising judicial functions among you, such a position as I now occupy is intended,

\* The town and county of Kingston-upon-Hull, commonly called Hull, was constituted a free borough, with extensive immunities, under a charter of Edward I., dated the 1st April 1299. For upwards of a century, however, before that time, it had been a seaport of considerable mercantile importance.—See Frost's Notices relative to the early history of the town and port of Hull, [A.D. 1827,] and *The Encyclopædia Britannica*, tit. "Hull."

I can assure you, to be a solitary one in my lifetime; and it is also an embarrassing one, because not in unison with my professional habits and objects. On the occasion, however, of my first judicial visit to this town, in last October, I received an unexpected and earnest request from the President and Council of the Literary and Philosophical Society of this place, to read a paper before the Society, and on any subject which I might select. After much consideration, I expressed my willingness to do so, and chose the subject now before us. Some time afterwards, I was honoured by receiving a unanimous resolution of the President and Council, soliciting me "to take steps, by anticipation, to commit the paper to the press, in order that it may be perused, at as early a period as possible, by those who cannot hear the paper read—with a view to its extended usefulness." I own that I was not a little affected by so signal a mark of confidence; and have already, as far as I have been able, complied with the request.

As I feel it a very responsible honour, under these circumstances, to appear before you, so I beg your indulgence, and your sustained attention, while I endeavour to lay before you, though, it may be, very imperfectly, some of the results of nearly a quarter of a century's observation and reflection, on many subjects of the highest interest and importance. It is in vain for me, however,

as it would be foolish, to attempt to burthen you with all the dismaying mass of manuscript which I hold in my hand ; and, finally, before starting on our extensive and venturous expedition, I have to assure you, that nothing shall fall from me calculated to provoke difference of opinion, except so far as is unavoidable in addressing any mixed and independent auditory. Above all things, I shall eschew everything even approaching to a political or sectarian character. This, indeed, your rules discreetly prohibit ; and to those rules my own purpose and feelings dictate a rigorous adherence.

Well, then, we are here assembled, only a day or two after Christmas Day !—Let us regard the season—the occasion—as a halcyon interval of repose, in which our cheerfulness is blended with solemnity, while reflecting upon that Event, so sublime and awful in the estimation of all Christians, which invests the close of every year with, as it were, a grand halo. The eager, noisy world, with all its wild passions, and the transient pursuits which stimulate them, is, for a while, happily shut out ; leaving us to breathe a serene atmosphere.

Be still, ye winds ! ye zephyrs, cease to blow,  
While music most melodious meets my ear—

the “ still sad music of humanity,” which may be heard echoing while we fix our eyes upon MAN and

his mysterious manifestations—in his momentous relations to the Past, the Present, and the Future.

May I, however, in a more cheery spirit, make a passing allusion to a topic occasionally exciting a lively interest out of doors?—the budget of our Chancellor of the Exchequer! Let me conceive myself to have been installed your Chancellor of the Exchequer *intellectual*; and here, at your service, is *my* Budget; but it will be forced to deal very summarily with the income and expenditure of THOUGHT—its Resources—its Ways and Means—and the circulating medium of that thought, which is its language or literature. I cannot, alas! hold out the hopes of taking off any taxes, but, on the contrary, must impose a somewhat heavy one *on your attention!* My Budget will deal with a vast variety of topics—some of them of great delicacy, difficulty, and moment; topics coming home to the business and bosom of each of us, and challenging our anxious consideration. We cannot survey, for the purpose of practically estimating, *the intellectual and moral development of the age* in which we live and are playing our parts—every man and woman of us having his or her own responsible mission to perform—without attempting gravely and comprehensively to consider man in ordained relation to his power, and his knowledge, his objects, his sayings and his doings, his position past and present, and his destiny. It is difficult to

imagine any period for making such an attempt more interesting and inviting than the present—one, in many respects, very dazzling; and in others, exciting concern and surprise. In one direction, it may be that we see a vast space passed over in a little time; in another, a long time with scarce any space passed over at all; though in each case human intellect has been occupied and taxed to its uttermost apparent capabilities. These are matters justifying, and even demanding, attentive consideration. It will be necessary, with this view, to soar high and far, but swiftly, into the stupendous starry solitude of space; to descend, as far as man's limited means allow him, into the interior of the earth; and, again, to travel all round its surface, in order to ascertain what we know, or think we know, of the human and animal denizens of that earth, and of the nature and relations of that earth itself; and, finally, to penetrate, as far as we may, and with a tender respect, into that mystery of mysteries, MAN himself.\* And this, not with the view of attempting an ostentatious display of his doings, his discoveries—of the exploits of his genius, which might serve only to inflate a foolish pride, to generate spurious motives to action, and, in short, and above all, induce a fatal—I repeat, a

\* “Alas!” says Coleridge, speaking of the difficulty of fixing the attention of men on the world within them, “the largest part of mankind are nowhere greater strangers than at home.”

fatal confusion between MEANS and ENDS; which last words contain the key of all that is to follow. Let us, on the contrary, try to look at Man, as he has been told by God *that he is*,—placed upon this planet, by a direct incomprehensible act of creation, by that God whose image, though now darkened, he bears, and between whom and himself there exist relations inconceivably awful and momentous. Those relations it is surely of infinite consequence to us to ascertain accurately, as far as we can; because they directly and permanently affect human conduct and destiny. On a due perception, indeed, of those relations, duly acted upon, rest the true and only enduring dignity of human nature, the actual inevitable difference between one man and another, and the only real uses and aims of intellect and knowledge. I hope to place in a distinct point of view the proposition, that as it is possible for a man to have a prodigious knowledge of the facts of philosophy, without a glimmering of its spirit; so the human intellect may be endowed with great strength and capacity, be consummately trained in the exercise of its faculties, and richly stored with the fruits of literature and philosophy, and yet its possessor be all the while mentally purblind—nay more, destitute of an atom of moral worth: serving, to the eye of the Christian philosopher and moralist, only to illustrate the deplorable, degrading, and perilous consequences of a

want of it, in the individual case, and, in the general one, to reveal to us a sort of moral and intellectual chaos. I say, intellectual as well as moral. And in the former case, why should I not call up, for an instant, the spectre of La Place, whose great intellect could occupy itself during a lifetime with the sublimest truths of astronomy, to no better purpose than to deny the existence of the Almighty Maker of the universe; impiously to insinuate that the supposed useful purposes of our system could have been accomplished otherwise, and better, than at present! and, finally, to discard religion, and the sanctions which it derives from a future existence and its conditions, as a cruel imposture practised upon the ignorant credulity of mankind!\* Believe me, there are real relations between physical and moral science—there are profound relations between intellect and morality, involving everything that concerns the highest interests of mankind; and it cannot be otherwise than interesting and import-

\* It is right, however, here to state that M. La Place, not long before his death, intimated to a distinguished English philosopher (Professor Sedgwick) a great change of opinion. Having spoken to him earnestly on the *religious* character of our endowments, and course of academical study, M. La Place added: "I think this right; and on this point I deprecate any great organic changes in your system; for I have lived long enough to know—what at one time I did not believe—that *no society can be upheld in happiness and honour, without the sentiments of religion.*" This remarkable statement is made on the authority of Professor Sedgwick himself, who says it is in the very words of M. La Place, "as nearly as I can translate them."—See the *Discourse on the Studies of the University of Cambridge*, 5th edit.



ant, to seek for every ray of light which may contribute towards showing us the real nature of these relations. The General is made up of the Particular—the Whole, of its parts; and there may be personal consequences depending upon the minutest moral actions of mankind, as real, great, and permanent, as the causes entailing them *appeared* trivial and temporary, and were, in fact, while operating, wholly *unperceived*. The old philosophers said, that Nature does nothing in vain, in the physical world; and so, in the mighty moral economy under which we have been placed by our Almighty Maker, let us rest satisfied that nothing has been done by Him in vain, and perhaps also, nothing by the creatures whom He has made the subjects of that economy. The possession and use of intellect entail great moral and religious responsibilities; and between one who thinks otherwise, and those with whom I think, there is fixed a great gulf, in respect of speculation, action, and conduct; there exists a distinction involving the entire theory and basis of morality, its Motives and Sanctions, its Means and Ends.

Do not, however, be startled by this sudden glimpse into gloom—into the profound abysses of abstract speculation, which I now quit for a time; but remember, that these considerations constitute a reality all the while, surrounding us even as the atmosphere envelops the earth: and let us, in

passing on to lighter subjects, and hovering over them for a time, carry with us, nevertheless, an oracular saying of Bishop Jeremy Taylor, "Whatever we talk, things are *as they are*, not as we grant, dispute, or hope; depending on neither our affirmative nor negative, but upon the rate and value which GOD sets upon things." \*

Permit me here to say what is sought to be indicated by the word Development. I use it in its strict etymological signification; that is to say, an 'opening,'† a 'showing forth,' a 'displaying' of the intellectual and moral condition of man in the present age. And—you will say—is this to be done in a single evening's paper? It sounds, indeed, as hopeless as the notion of compressing the Iliad within a nutshell. Nevertheless, the attempt must be made to survey this vast field, however rapidly, and however hard it may be to know where to begin. The great object is for the observer to select a *right point of view*. On that depends everything; for there *is* a point from which everything within and without us is order and loveliness, and another from which all is contradiction and confusion. There is a string which, "*untuned*," we may well call out fearfully—

"Hark! what discord follows!"

\* Works, vol. xi. p. 198, (Bishop Heber's edition.)

† "*Desveloper*," "*developer*,"—perhaps from *deorsum volvere*, to roll back, to open, unwrap, or unfold anything rolled in a volume. *Cotgrave*, as cited in Richardson's Dictionary.

I shall glance first at our LITERATURE\*—the current coin, so to speak, of the realm Intellectual—the circulating medium of thought, by which Intellect communicates with Intellect, in both the present and past ages. And it is one pre-eminent characteristic of the present age, that though the issue of this coin is infinitely greater than the world has ever seen before, it yet scarcely equals our requirements. The mint is kept in incessant action, though its capabilities have been immensely augmented! Let me now, however, advert, for a moment, to the metal out of which this coin is made—our language. Is *gold* pouring into our cellars as it is into those of the Bank of England?

Our English language is a noble one, worthy of the most jealous guardianship; and the slightest tendency to deteriorate it, by writing or speaking it in a slovenly way, or introducing, from any sort

\* The etymology of this word is not by any means determined. It is traced clearly through the French, Italian, and Spanish languages, to the Latin *littera*; which may perhaps, as suggested by Mr Richardson, be taken from *litum*, the past participle of *linere*, to *smear*; as one of the earliest modes of writing was by graving the characters upon tablets, which were *smeared* over or covered with wax.—(*Pliny*, lib. xiii. c. 11.) These wax tablets were written on with an instrument of iron or brass, (*stilus* or *stylus*,) resembling a pencil in size and shape, sharpened at one end, the other extremity of it being flat and circular, for the purpose of obliterating what had been written, and rendering the waxen surface smooth again. A picture found in Herculaneum, and of which an engraving is given in Dr Smith's Dictionary of Grecian and Roman Antiquities, represents a Roman with his tablet and "*stilus*;" whence the English word "*style*."

of conceit, and to catch a momentary notoriety, vulgar novelties, ought to be treated as attempts at defilement and disfigurement; and should entail instant critical censure and contempt, on the part of those who are interested in handing down our language, in all its purity, beauty, strength, and dignity, to posterity, as it were a sacred heir-loom. That language we ought to be every day more and more solicitous thus to cherish and protect; for it is daily and hourly spreading over the whole habitable globe, and seems destined to gain a complete ascendancy over all others now spoken and written. Look into the New World, and see there, in the Far West, the mighty daughter of a mighty mother, of whom she is, and ought to be, proud! She can, when she pleases, speak the language of that mother with as much elegance and force as her parent, towards whom she must often turn with yearning fondness and pride.—Ah, what are the feelings with which, as I have several times been assured by themselves, our gifted brethren from the West first catch sight of the white cliffs of Albion! They often watch, for that purpose, through the live-long night; and when Old England becomes visible, even as a dim speck beyond the waters, a thousand and a thousand times have their tears gushed forth, while they gazed, in silent tenderness, on the little island from which came their own ancestors—in which its own—*their* own—SHAKSPEARE was

born ; that island which he so dearly loved, and has rendered immortal ; of which he spoke in very moving words, that make an Englishman's heart thrill when he hears them—as “ this sceptred isle ” —“ this little world ”—

This precious stone, set in the silver sea—

This blessed plot, this earth, this realm, this England !

This land of such dear souls—this dear, dear land ! \*

So wrote Shakspeare, with quivering pen, in Queen Elizabeth's day ; and so, nearly three centuries afterwards, read we, with quivering hearts, in Queen Victoria's day—the Sovereign Lady of this same dear sceptred isle—we, who are able, and resolved, that, with God's blessing on our stout hearts and strong arms, it shall pass down for centuries hence to her descendants, and to our descendants—aye shall that “ precious stone, set in the silver sea ”—its guardians knowing neither fear nor foe—or, knowing, only to defy ! Could I call up Shakspeare before you, how would you tremble with emotion as you heard that noble spirit speak his own words :

This England never did, nor never shall,

Lie at the proud foot of a conqueror,—

But when it first did help to wound itself.

Come the three corners of the world in arms,

And we shall shock them ! Naught shall make us rue,

If England to itself do rest but true ! †

Who can listen to this, and not feel pride on re-

\* *Richard II.* act ii. scene 1.

† *King John*, conclusion.

flecting, that perhaps at this very moment our brethren and sisters at the antipodes may be reciting it, and thinking, with swelling hearts, of their little island home, and of us whom they have left behind in it? Let me sum up all that an Englishman can say, in a line—a little varied, it is true—of our great Poet himself—

One touch of *Shakspeare* makes the whole world kin !

And shall not the descendants and countrymen of Shakspeare and Milton, and so many other illustrious writers of our glorious Saxon language, alike in prose and in verse, strive to protect that language from pollution, and hand it down pure as we received it? Or shall they calmly contemplate its being rapidly deteriorated by those who were never able to appreciate that purity, and are consequently indifferent about preserving it? I repeat it, that our fast-quitting brethren and sisters—God go with them!—are carrying, in increasing numbers, our language into every region of the globe; a fact which of itself should suffice to quicken our vigilance to keep the source of that language pure. “The treasures of our tongue,” says one who has conferred inestimable service on that tongue,\* “are spread over continents, scattered among islands in

\* Dr Richardson, by his “New Dictionary of the English Language; combining Explanation with Etymology, and illustrated by Quotations from the best Authors, arranged chronologically from the earliest period to the beginning of the present century.” 2 vols. 4to. This admirable work constitutes almost a library of

the northern and the southern hemisphere, from 'the unformed Occident to the strange shores of unknowing nations in the East.' The sun, indeed, now never sets upon the empire of Great Britain. Not one hour of the twenty-four, in which the earth completes her diurnal revolution—not one round of the minute-hand of the dial, is allowed to pass, in which, on some portion of the surface of the globe, the air is not filled 'with accents that are ours.' They are heard in the ordinary transactions of life, or in the administration of law, or in the deliberations of the senate house or council-chamber, in the offices of private devotion, or in the public observance of the rites and duties of a common faith."

This noble language, finally, enshrines reverentially the Holy volume, the oracles of God, which His pious servants in this island are disseminating, in countless millions of copies, among mankind in every quarter of the globe. Should not that of itself be a grand incentive to us, both speakers and writers, to do our best to preserve the identity of that language, by keeping its choice treasures, as models of simplicity, strength, and beauty, constantly before our eyes, and in our thoughts? Oh! let us imitate the Greeks and Romans in the noble and

English books in itself; and its learned and indefatigable compiler has recently received a fitting recognition of his merits, by a pension, conferred through the Earl of Derby, then Prime Minister, by her Majesty, (A.D. 1852.)

emulous care with which they developed and preserved their renowned languages, which have consequently come down to us in unimpaired freshness, beauty, and splendour, amidst

“The waves and weathers of time—”

come down to us in such guise, as to leave us almost in doubt which to admire more—their thought, or the exquisite language which conveys it!

I say these things only for the advantage of the younger portions of this large audience, and of those who may hereafter think it worth while to read what I am now uttering; and to them, would that I could speak trumpet-tongued on this subject, which has always lain near my heart. Let them (I mean the younger folk) believe the assertion, which will be readily supported by the greatest masters of our language, that to write English with vigour and purity is really a high, and also a rare, accomplishment: much rarer, indeed, than it ought to be, and would be, if youthful aspirants would only conceive rightly, and bear ever in mind, the importance of the object, and the efforts indispensable to secure it. This accomplishment involves, in my opinion, early and careful culture, continued attention, and sedulous practice, familiarity with the choicest models, and no inconsiderable degree of natural taste and refinement. One thus endowed and accomplished must some-



times shudder at the extent to which he may see our language vitiated by needless and injurious incorporations of foreign words and idioms, and vulgar, fleeting colloquialities, of our own viler growth,\* which are utterly inconsistent with the dignity of high and enduring literature. Any man of talent, or more especially of *genius*, (a distinction difficult to put into words, but real and great, and not in degree, but kind,) who disregards these considerations, offends the genius of English letters; and indeed, let him rest assured, commits a sort of literary suicide. He may be unconsciously disgusting thousands—nay, tens of thousands, of persons competent to detect, at an indignant glance, these impertinent and vulgar departures from propriety: familiar with the finest models of ancient and modern literature; persons, in short, whose estimation constitutes the true and only pathway to posterity. If their *fiat*, or *imprimatur*, be withheld, (and it is given only after a stern scrutiny,) the eager ambitious traveller will by and by find out, to his mortification, that he has started *without his passport*. I am not now speaking simply of the numerous professed and habitual critics of the present day, who constitute, as they

\* It is one feature of Richardson's Dictionary, that he never gives words of this description, but those only which are supported by the carefully-selected writers, whom he cites in every instance, commencing with the close of the thirteenth, and ending with the commencement of the present century.

ought to do, a vigilant and expert literary police, doubtlessly restraining many an intruding offender; but also of the great body of readers, — ay, of either sex — who feel no inclination to express their refined criticisms in print, or become members of what are called “literary circles,” which too often contain only second, third, or fourth-rate aspirants to literary reputation, none of whom experience the promptings of conscious and independent strength, and cannot stand alone, but combine, in little efforts, too often only to disparage those who can, and do. The higher class, to which I am alluding, exercise, nevertheless, an influence which may, in one respect, be compared to Gravitation, which is unseen, unheard, but irresistible; and all young writers should consider this, before they rush into a presence so formidable. I hope it may not be deemed presumptuous, if one venture to express a fear whether the number of writers in the present day may not bear too great a proportion to readers; and whether, again, many of those writers do not become such, without adequate reflection and preparation. No event, no incident of any kind, of the least interest or importance, now occurs in any branch of literature, science, politics, or in the ordinary course even of domestic life, but ten thousand pens are instantly set in motion simultaneously for the press, whose swarthy unseen battalions are

forthwith at work to submit these hasty lucubrations to the public. Yet it cannot be denied that the current of our periodical literature, running alike through daily, weekly, monthly, or quarterly channels, must appear, upon the whole, to even a captious, if a competent, censor, highly creditable to an accomplished age. I can most conscientiously express my belief, that for a long time no periodical of note has been established in this country which has not disclosed the desire of its conductors to fit it, for the purpose of innocent recreation and information, to readers of both sexes, and of all ages and classes. It is a fact, however, stated with concern and reluctance, that there is a poisonous growth of libertine literature\*—if the last word be not indeed libelled by such a use of it—designed for the lowest classes of society; supplied, moreover, to an extent scarcely equal to the demand for it, and which exists to an extent unfortunately little suspected. I know not how this dreadful evil is to be encountered, except by affording every possible encouragement, from every quarter, to the dissemination, in the cheapest practical form,

\* Some years ago, a notorious writer of this class, when far advanced in life, called upon me, and in the course of conversation, with tears in his eyes, deplored having prostituted his powers to corrupt the minds, and unsettle the religious opinions, of his readers; and with anguished energy added, "What would I not give at this moment to annihilate everything that bears my name, and to be able to say on my death-bed, that I had left 'no line which, dying, I could wish to blot.'"

of wholesome and engaging literature. If poison be cheap, let its antidote be cheaper.

In this great and free country, public opinion must express itself *promptly* on current political events, which are from day to day treated with a degree of ability indicating the very masterly hands that are at work. In fact, I personally know several instances of contributions to the current political literature of the day, by persons whose high social rank, position, and pretensions—whose proved knowledge, ability, and celebrity, are little suspected by their readers, and whose names would insure almost universal attention and deference.

Rapidity and power largely characterise our POLITICAL LITERATURE; and let me also add, in a spirit of honest pride and truth, that it is very rarely defaced by personality, invasion of the sanctities of private life, or the slightest trace of immorality or licentiousness. Exceptions may possibly exist; but I defy any one to adduce instances of successful and prolonged indecorums of this description. The spirit of the age will not tolerate them; and our writers dare not, nor do they wish, to offend that just and dignified spirit.

Thus the freedom of the Press—an enormous engine in a highly civilised community, and where its action is not oppressed by the heavy hand of tyranny—is worthily used by a free, a great, and a good people, if one of the humblest may be per-

mitted so to characterise his fellow-countrymen ; and long may it so continue ! And yet no nation is more subject than our own, from the very necessities of its social condition, to vivid political and polemical excitement, calling forth, or having a tendency to call forth, all the most fierce and violent passions of our nature.

Passing with this honest and unbiassed expression of opinion, from that portion of our literature which is professedly devoted to the treatment of ephemeral topics and objects, I wish to say a few words on the writers of separate and independent works—speaking again, as in the presence of youthful aspirants to literary distinction. Let them ask themselves whether they wish that which they purpose writing, *to live* ? If they do, it is really properly considered a bold aspiration : it is to elevate themselves above innumerable millions of mankind who never were, nor can, nor will, be so distinguished from their fellows. Ought not, then, the pains and effort, both in duration and intensity, to be commensurate ? Rely upon it that Horace is right—

Qui studet optatam cursu contingere metam,  
Multa tulit, fecitque puer, sudavit, et alsit.

Provided the aspirant believe himself intellectually fit to attempt attaining so resplendent a position, let him consider—as he will, if moved by superior impulses, which are powerless to inferior

minds—how to select subjects of enduring interest to mankind, and then to treat them in a high and catholic spirit, so as to attract the human heart and intellect, which, let him ever bear in mind, are one and the same in all times and places, and unaffected by fleeting topics and associations, however powerfully intense for the moment. Those who were swayed by them pass away quickly and for ever. A month, a year, a generation, a century, and all trace of them, their sayings and their doings, has perished, as completely as disappears breath from the polished surface of the mirror.

Having selected a fitting subject, let him imitate the glorious devotion of those great ones of past time, whose works still glitter vividly before *our* eyes, even as they did before charmed contemporary eyes. The writers of Greece and Rome underwent a degree of heroic self-denial and labour, which, in our day, we can hardly realise; but we behold with admiration the realised and imperishable results: their transcendent performances in poetry, philosophy, history, and oratory, such as it now requires great effort and high attainments even only moderately to understand and appreciate. Let me mention, in passing, an incident relating to Thucydides.

When only sixteen years of age, he heard Herodotus, then not more than twenty-nine years old, recite his charming History, as was the custom, in

public; and wept with the intensity of his emotions. From that moment he conceived and cherished the high ambition of becoming himself an historian; and how he ultimately acquitted himself, his noble history of the Peloponnesian war is extant to tell us; and, in doing so, to exhibit a model of history for all time to come. Such was the admiration of this great performance by Demosthenes, that he transcribed it eight times! and became so familiar with it, that he could repeat almost the whole of it!

There may, for aught any of us know, be present in this great assembly, some gifted spirit resolved on silently preparing to face posterity, to secure a literary immortality: self-denying and self-reliant, fixing an eagle eye on remote and applauding ages; calmly content to make every sacrifice, even that of contemporaneous approbation and enthusiasm. Let him not, however, despair of even this latter; for there are acute and watchful eyes ever open to scan the pretensions of real greatness—persons generously eager, for the honour and reputation of the age, to bring that greatness forward and do it homage wherever it presents itself. I would say to such a one, Hail, young candidate for future and undying renown! Be-think you, that you are treading in the steps of immortal predecessors, who, could they but speak to you, might say, Remember! Persevere! But, alas! in the special circumstances of the pre-

sent age, when mental power is so early and universally stimulated into action, Power may be great, but inseparably linked to Poverty, which compels it to relinquish, with a swelling heart, its proud aspiration to delight and instruct future ages, in order simply to *live—to exist*, in its own day. Well, in that case, O fettered, harassed, and noble spirit! look proudly inward! Consider how the Deity has distinguished you by His endowments; and bow with cheerful reverence and submission to Him and to His will, which is guided by inscrutable wisdom, in this, to you, apparently hard dispensation. Your present position is perfectly known to Him who could change it in the twinkling of an eye, and may do so. In the mean time, regard Him steadfastly as the *Father of Lights, from whom descends every good and perfect gift*; and persuade your heart that the Father will not forget his Son.

Before quitting this topic, suffer me to say one word most earnestly to deprecate undervaluing the inestimable advantages of a classical education. Those in the present day most keenly and bitterly appreciate this remark, who are experiencing the practical consequences of a want of classical education. What are they to do, in either public or private society, when allusions and quotations are made, which, however erroneous and absurd, *they* cannot detect or rectify—however apposite and



beautiful, *they* cannot appreciate? They appear, necessarily, vulgar, inglorious mutes. And further than this, how can they really master a language, which, like our own, is so largely indebted to those of Greece and Rome? The finest writers and speakers in the present and former times, have been those most richly imbued with classical literature, which had at once chastened and elevated their taste, and made it impossible for them to stumble into coarseness or vulgarity. Great natural powers, aided by much practice, may undoubtedly enable their possessor to make right eloquent use of his mother tongue; but he is never safe from disclosing the absence of early classical culture; and were his time to come over again, would strain every nerve to acquire such precious advantages. From the moment that such notions become in the ascendant, that early classical education is a superfluity, the links which bind the intellect of age after age to those of Greece and Rome are snapped asunder. From that moment refined taste will disappear; and, moreover, the best school for training the youthful intellect to early and exact habits of thought and expression, will be irrecoverably lost.—A fox was once advised to get rid of his tail, by a friend, who gave him many convincing reasons for dispensing with so troublesome, ungraceful, and useless an appendage; but all of a sudden, the first-mentioned fox discovered that his

astute and eloquent companion had, somehow or another, contrived to lose his own tail. I thought of this some years ago, when listening to a well-known orator of the day, volubly declaiming against the folly of a classical education, of which almost every word he was uttering showed himself to be totally destitute.

Another feature of the literature of the age, is the immense and incessant multiplication of ELEMENTARY works in every department of knowledge. On this, two remarks may be offered: First, the best often indicate a great advance on those of former days, and a high appreciation of the principles which ought to regulate the communication of knowledge to learners. Secondly, the common run seem sometimes to show, in the authors or compilers, teachers who have scarcely finished being learners; and not unnaturally imagine that that which so recently seemed novel and difficult to themselves, must needs be so to all other learners, and yet have missed the notice of all other teachers. Such an incessant supply, however, must, in some degree, indicate a corresponding demand; and that is of itself a cheering sign of the times. Whoever has made an honest and creditable effort to disseminate pleasing and useful information, has so far deserved well of the age in which he lives, and has contributed, however humbly, his share in its advancement. How can he tell how many persons

he may have delighted and instructed, and beguiled away from ruinous intemperance and profligacy?

Some persons complacently call the present a superficial age; but I, for one, am not presumptuous enough thus to characterise, if not slander, the times in which we live. Such observations often proceed from a shallow flippancy, unworthy of serious attention. Those, however, who may properly be charged with pluming themselves unduly on the possession of mere elementary knowledge, perhaps too hastily acquired, it may be well to apprise of an observation of Locke, worthy to be written in letters of gold, and to be ever before the eyes of those now alluded to. "In the sciences, every one has so much as he really knows and comprehends. What he believes only, and takes upon trust, are but shreds, which, however well in the whole piece, make no considerable addition to his stock who gathers them. Such borrowed wealth, like fairy money, *though it were gold in the hand from which he received it, will be but leaves and dust when it comes to use.*" \*

Knowledge of various kinds is now diffused over

\* *Essay on the Human Understanding*, book i. c. 4, § 23. "So much," says this great man, "as we ourselves consider and comprehend of truth and reason, so much we possess of real and true knowledge. *The floating of other men's opinions in our brains, makes us not one jot the more knowing, though they happen to be true.*"—*Id. ib.*

a vast surface; and through indolence, or inability from various causes, great multitudes are content with the glittering surface. They may be compared to tourists, crowding eagerly and gaily to the frontiers, but never even dreaming of penetrating into the interior, of Science.

I shall say nothing of the great number of SERMONS AND RELIGIOUS publications, which make their almost daily appearance, and presumably indicate, by their continuance, a proportionate demand for them. For my own part, I rejoice to see religious truth set forth in every imaginable form and variety in which it may present itself to devout and discreet minds; especially by those who are trained as our religious teachers, and evince, by what they write, a due sense of their high and holy mission, by candour, moderation, sincerity, and piety. I read, and always did read, largely in this direction—both our old writers of divinity, and those of our own day; than whom, I am sure that none will be readier than themselves to say of their great predecessors, *there were giants in those days*. And of our living divines it may be said with truth, that they address themselves with great ability and learning, especially to theological exigencies which did not exist, at least in their present form, in the times of their foregoers.

Amiable feelings, and a facility of publishing, precipitate upon us a sort of deluge of BIOGRAPHY.

People's "*Lives*" are *now*, it is to be feared, written too often without the slightest regard to their pretensions to be distinguished by such posthumous notice; and I doubt whether this may not be a secret source of some little that is affected and factitious in modern individual character. I mean, whether men, women, and even children, do not sometimes act and speak with a view to their little sayings and doings being chronicled in flattering terms after their decease. In truth, there are very few people indeed, with whose lives and character any reasonable person can feel the faintest desire to be made acquainted. When a great man dies, let his life be written, but let it also be written *greatly*. If not at all, or imperfectly, the age, or the biographer, suffers, and is disgraced; for a great memory has been slighted, or degraded. Take, for instance, the resplendent character of him whom the nation, with the eyes of all other nations upon it, so lately buried with reverent affection.

I witnessed that great burial: and methinks the scene of solemnity and grandeur rises again before my eyes. I can conceive nothing more calculated than was that transcendent spectacle profoundly to affect the heart and the imagination of a philosophical beholder. There was to be seen the chivalry of the world, shedding tears round a mighty fellow-warrior's coffin, which was

descending gently for ever from their eyes, amidst melting melody, into the grave where *the worm* is now *feeding sweetly* \* upon all that was mortal, of Arthur Duke of Wellington. While my tears fell, in common with all present, including royalty itself; while music pealed mournfully, dissolving the very soul, and the gorgeous coroneted coffin finally disappeared, † there arose before my mind's eye a kindred yet different scene—the vision of some pauper burial, simple and rude, occurring perhaps at that very moment: the burial of some aged forlorn being, ‡ whose poverty-stricken spirit was at length safely housed where *the weary are at rest*: the poor dust unattended, save by those whose duty was to bury it—without a sigh, without a tear: with no sound but a reverend voice, and the gusty air; and no prolonged ceremonial. In the world of spirits, both these might already have met—the warrior-statesman and the pauper, each aware of the different disposal of the dust he had left behind! Thus are we equally unable to evade death, to conceal or disguise its true and awful character. *One event*

\* Job xxiv. 20.

† It was very affecting to see the present Duke of Wellington quietly extend his hand to touch his illustrious father's descending coffin.

‡ At the remote village in which Lord Byron lies buried, a friend of mine recently saw, on a page of the Register, near that which contained an entry of the noble poet's burial, another thus: "*An old man: a stranger: name unknown.*"

*happeneth to all.\** The word spoken on high, and great and mean are beside each other in the same darkness, with the same event before them.

Pardon this digression, for a moment, concerning so great, and so recent an event: one to be witnessed once only—not in a lifetime only, but perhaps in many ages.

To write the life of our immortal Wellington, to produce a *κτῆμα ἐς αἰὲν*, would worthily occupy ten, ay, or even twenty years of the life of a highly-qualified biographer; to preserve a mighty individuality, and not lose it amidst glittering multifariousness of detail. To present Wellington to posterity, as alone posterity is likely, or concerned, to look at him, a great effort must be made to disengage him from, and indeed obliterate, all traces of mere circumstance, except where essentially indicative of idiosyncrasy, however interesting to contemporaries. His biographer ought to feel that he is really at present, and for some time to come, *too near* the greatness which has gone from us; and should, therefore, strive to place himself at least half a century, or a century, in advance of the age in which he lives. But, who now has the patient self-denial, shall I also say, the leisure to do this? Is there, indeed, any encouragement to make the effort? Or does an indolent and prurient love of *gossip* vitiate the

\* Eccles. ii. 14.

taste of both readers and writers of biography—encouraging the latter to trifle with the memory of the dead, and the intellect of the living?

I would recommend any young aspirant to biographical distinction to read, and meditate upon, the chief existing models of that delightful and instructive class of writings—models in respect of the fitting subject, and the strength and beauty with which that subject is invested by their writers. Let him then ask himself, Is *my* subject worthy of occupying the public attention, likely to interest posterity; and, if it be, am I capable of doing justice to his character and memory? And have I the requisite means and opportunity? I cannot quit this topic without expressing a thought which has often occurred to me, that the dead of our days, could they reappear among us for a moment, have grievous cause to complain against their survivors. The instant that those dead have disappeared, almost every act of their life, even of a private and confidential nature, is formally submitted to the scrutiny of often a harsh-judging public, not acquainted with the precise circumstances under which those acts were done—those letters, for instance, written—which become thenceforth the subjects of unsparing comment and sometimes injurious speculation! I have heard an eminent person say, when conversing on this subject, “For my part, I now take care to write



no letters that may not be proclaimed on the housetops—and am very cautious whom I take into my confidence.” Is this unreasonable, or unnatural?

Perhaps, however, the most conspicuous feature of the literature of the age, is to be seen in the department of PROSE FICTION. There can be no difficulty in pointing to the great name of Sir Walter Scott as one destined, in all probability, to attract the admiring eyes of distant ages, unless, indeed, our language fail, or the taste and genius of future times altogether alter. He was a wonderful person; and has left in our imaginative literature the traces of giant footprints, such as none dare even attempt to fill. All his contemporaries and successors, down to the present time, he “doth bestride, like a Colossus.” Of this great genius it may be proudly said, that he never wrote a line which had the slightest tendency to licentiousness: and, moreover, that there is not a trace of vulgarity in any of his often dazzling and enthralling, but not equal compositions, all of which emanated from the pen of the highly-finished scholar and gentleman. This class of writing, for certain reasons of my own, unimportant to any one else, I feel extreme delicacy and difficulty in touching, or even glancing at. To criticise contemporaries, and by way of either censure or praise, is an impertinence of which, for those reasons, I cannot be guilty; but I

may be allowed to express my opinion, that during the last quarter of a century, undoubted, and high, and very peculiar genius has been displayed in this fascinating department of literature. It may, at the same time, be admissible to express, most respectfully, a suspicion whether, in the opinion of future competent judges, it would be held that sufficient pains have been taken, in the present day, to construct a Fiction on a durable basis; and whether there are, consequently, many that have sufficient vitality to bloom in the atmosphere—shall I say it?—of the next succeeding century. It has always appeared to me, that to construct a durable Fiction is really a more difficult task, and requires much more original power, and far greater knowledge and taste, time, and consideration, than seems to be sometimes supposed. Let any one carefully consider the conception, plan, and execution, of those three imperishable masterpieces, *Don Quixote*, *Gil Blas*, and *Tom Jones*; and I shall be much mistaken if he will not concur in the observation which I have ventured to make.

The continuous and even increasing demand for this class of writings, both in our own country, on the Continent, and in America, is truly astonishing. I doubt whether anything of the kind is written, however humble its pretensions, which is not read by hundreds; while those of a higher, and the highest order, and the productions of persons of

established reputation, are eagerly read by many hundreds of thousands of persons, perhaps ultimately by even millions, in almost every class of society. If this be so, how great is the responsibility cast upon those possessing the power of writing such works! What incalculable evil, what incalculable good, may they not do!

And I do believe that many of the most distinguished and successful labourers in this gay crowded quarter of the literary vineyard, sincerely strive to make their writings the vehicles of high moral teaching.

It is, in fact, a class of writing which must always have charms for mankind: and it may be remarked, with humble reverence, that the sublime teachings of Him who *spake as never man spake*, were largely conveyed in *parables*.

The writing of HISTORY finds great favour, and enjoys unprecedented facilities, in the present age. Generally speaking, it is in the hands of very able, learned, and faithful men; and I doubt whether history ever spoke so fully and so truthfully as in the present age. To some extent this is easily to be accounted for, even independently of the personal character of our historians; and principally by the fact that so many persons now have ample opportunities for quickly detecting erroneous statements. Authentic political information of every kind is accessible to almost everybody; and a

consciousness of this fact naturally quickens the vigilance of historical writers, especially those dealing with modern and recent times. The historians of three or four centuries hence will have immense advantages over their predecessors of the present and previous ages. There is one history of the present day, which will present in all future time a great storehouse of authentic facts, constituting the record of one of the most critical periods in the history of civilised mankind.

POETRY is not *dead*, in the present busy practical age; but her voice is heard only faintly and fitfully, like the sounds of an Æolian harp in a crowded thoroughfare. The hurrying passengers do not hear it, nor would care about it if they did; but now and then the sounds from that harp fall deliciously on a sensitive ear, and awake fine sympathies. The poetry of the present age is principally and elegantly conversant with *sentiment*, of which it is often a very delicate and beautiful utterance. It is questionable, however, whether flights of imagination are as bold; whether it be, or at all events show itself, as strong and original as in times gone by. Yet there are grand regions which I have often greatly wondered to see *apparently* continuing untried. Oh, transcendent and most glorious faculty, there are yet boundless scenes into which thou mayest soar as on angel wing!

There is a fine spirit of CRITICISM abroad; subtle,

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piercing, and discriminating. Specimens of this species of literature may be seen in our weekly and even daily journals, as well as in those appearing at longer intervals—compositions which may take their place beside any extant in the language; and he who expresses this opinion, has himself been occasionally the subject of rather rough criticism, which, nevertheless, cannot bias an honest judgment. On the other hand, there is a very great deal of this class of writing that is hasty and flimsy, and amounting, in fact, to a mere caricature of criticism.

Our PHILOSOPHICAL literature is of a very high order—speaking at present as far as regards style of composition; and I believe that the most distinguished foreigners, acquainted with our language, express the same opinion. Mr Dugald Stewart, a very competent judge, and one who himself wrote English with purity and force, has declared that “as an instrument of thought, and a medium of scientific communication, the English language appears to me, in its present state, to be far superior to the French.” This was said nearly fifty years ago. Since then, no one can have been familiar with philosophical compositions, especially those of the present day, without having occasion to admire the simplicity, vigour, and precision with which English is written by those communicating the profoundest researches in science. If I may be allowed to express an opinion, I should select the style of

Sir John Herschel as affording a model of elegance, exactness, and strength. Some of his delineations of difficult and abstruse matters are exquisitely delicate and felicitous.

Having thus glanced at the more prominent features of the literature of the age, it may be excusable to suggest the question, whether, upon the whole, the present age is, in this respect, inferior, equal, or superior to any that has preceded it? This is a question, indeed, equally applicable to all the other branches of a subject directly or indirectly involving the intellectual development of the age; but it may nevertheless not be out of place here for an over-confident observer to cast his eye on the long roll of splendid names in every department of science and literature, prose and poetical, of days preceding our own, and in other countries as well as our own, and then modestly to ask, dare we say that we have any to set beside them? Or is the present age to be regarded as under peculiar conditions, unfavourable to the development of individual eminence and greatness? Voltaire, an author whose name one can never mention but with mingled feelings of contempt, anger, and admiration, once made this remark: "Original genius occurs but seldom in a nation where the literary taste is formed. The number of cultivated minds which there abound, like the trees in a thick and flourishing forest, prevent any single

individual from raising his head far above the rest." But is this so? And why should it be so? Would a Plato, an Aristotle, a Newton, a Bacon, a Locke, a Liebnitz,\* a Shakspeare or a Milton, a Scaliger or a Bentley, a Cervantes or a Le Sage, a Barrow or a Butler, a Chatham, a Pitt, a Fox or Burke, fail to tower above the men of the nineteenth century? The question may give rise to interesting speculations; but I shall pass them by with the observation, that one may, without presumption, venture to question the soundness of this confident *dictum* of Voltaire, who doubtless secretly hoped that he himself would be regarded as a transcendent exception to the rule which, possibly for that purpose alone, he modestly laid down.

Thus much for what may be termed *the vehicle or circulating medium* of thought; in discussing which, it was almost necessary to touch, however slightly, several of the multifarious subjects with which it is connected. May I recur to the question, Are we of the present day pigmies or giants, as compared with those who have gone before us?—or whether, taking a large average, we may be considered as below, or on a level with them? Let us reserve the matter for a future stage of our speculations; and in the mean time try to avoid a tendency to become, as Horace has expressed it,

\* It was the fond object of this great philosophical genius to subvert the Newtonian system!

*praisers of the past* on the one hand, and, on the other, confident and vainglorious as to the position of intellect in the present age. It may be that *there were giants in those days*—intellectual giants in the times before us; it may be that so there have always been, and that there are now. But here may be started an important and interesting question: Is the human intellect now really different from, or greater than, that which it ever was, since we have authentically known of its existence and action? The stature of mankind is just what it was three thousand years ago, as is proved by the examination of mummies: why should it be different with their minds? The intellect of Newton, La Place, or La Grange, may stand, says Sir John Herschel,\* in fair competition with that of Archimedes, Aristotle, or Plato. But is it not also possible, and the question is a very great one, that the Almighty may have prescribed limits to the human intellect, which it never could, and never can pass, however it may have the advantage of dealing with the accumulated riches and experience of all the past intellectual action of our species, as far as its results exist, for our contemplation and guidance? Or may there exist dormant energies of the intellect, beyond all past, but not incapable of future and prodigious, development?

\* *Disc. on Nat. Phil.*, p. 40.



*The INTELLECT!* But what is intellect?—and in merely asking the question, we seem suddenly sinking into a sort of abyss! Is intellect an unknown power, like Gravitation, whose existence is evidenced only by its action, while of the nature of that power we are utterly in the dark? Seven years ago I ventured, in a work incidentally dealing with such topics, to ask the following question: “Metaphysics, or mental philosophy: what shall be said upon this subject? What do we now really *know* of that strange mysterious thing, *the Human Mind*, after thousands of years’ ingenious and profound speculations of philosophers? Has the Almighty willed that it should be so?—that the nature and operations of the MIND of man, shall for ever be shrouded in mystery impenetrable, and that we shall continue at once pleasing, puzzling, and harassing ourselves, and exercising our highest faculties to the end of time, with contradictory speculations and hypotheses?” In this present month of December, I submitted this passage, for the purposes of this evening, to two eminent academic teachers in England and in Scotland, disciples of different schools, of that which passes under the name of metaphysics.\* One wrote to me thus:—“I can subscribe to the perplexity ex-

\* This word is a barbarous compound by the Schoolmen of the words [*τὰ*] *μετὰ τὰ φυσικά*, which were used by the editors of the extant works of Aristotle, to designate his abstract reasonings and

pressed about metaphysics, in the separate paragraph of your letter." The other told me, that he thought I had indicated the true state of metaphysical science in the present day. Then I asked him whether he considered that we were *really* any further advanced—or whether, at least, it was generally agreed that we were further advanced, in admitted knowledge of the nature and functions of the mind, than Aristotle was—that is, upwards of twenty-two centuries ago? He considered for a moment, and replied in the negative!—adding, "We may think that we are, but that is not my opinion." I then asked the same question of my other friend, and he wrote as follows:—"I am afraid that very few substantial advances have been made in psychology, since the days of Aristotle. Perhaps more people know something of the human mind than knew anything about it in his time; but I doubt whether any man of the present day knows more about it than he knew!"

What opinion would Plato and Aristotle form, of the existing state of metaphysical science in this country and Germany, if they could rise from their long sleep to scrutinise it? On how many great

speculations concerning the original causes of existence, without relation to matter, and which, they were of opinion, should be studied "after his Physics," *μετὰ τὰ φυσικά*, or treatises on Natural Philosophy.

points would they find their philosophical successors of—let us say—the last two centuries, *agreed*? And on which of them would either Plato or Aristotle be forced to acknowledge that their own speculations had been subverted by demonstrative strength? What new facts and phenomena would be presented to them in mental science? Who shall be our spokesman, of dead or living metaphysicians, from Descartes, Locke, Malebranche, and Leibnitz, down to Kant, Fichte, Schelling, and Hegel? What a ghostly wrangling might we expect to hear! What would be the result? Would the elder disputants claim the later as disciples; or these prove that their predecessors had been altogether and absurdly in the wrong?

But, you will reasonably ask, is it, then, really so? A few minutes' conversation with the first professed or acknowledged metaphysician whom you meet, however he may at first dispute it, will prove the existence of the fact, that the very elements of the science at this moment are floating about in extreme uncertainty. Ask him—what he means by *mind*?—is it material, or immaterial? What does he understand by matter?—does it exist, or not? Is thought the functional result of physical organisation, or the action of a separate spiritual existence? If so, how is it united with, or what are its relations to, matter? How does it stand with relation to the external world?

Nay—is there any external world at all? \* What is the nature of the mind's internal action? What is consciousness? What is perception, and what are its *media*? What are ideas?—are they, or are they not, innate?—for this grand question is, and even in our own country, still the subject of dispute! † What constitutes personal identity? And so forth: everything proving the more unsettled the further you push your way into the darkness and confusion worse confounded than that out of which you had gone. The distinguished metaphysician to whom I last alluded, a subtle, original, and learned thinker, wrote to me thus, the other day: “The science of the human mind, as hitherto cultivated, is a poor, unedifying pursuit: we seek to isolate the mind from the things

\* Bishop Berkeley, an exquisite metaphysical genius, brought profound reasonings in support of his opinion, that our belief in the reality of an external world is totally unfounded!

† “*Innate ideas*” signify those notions, or impressions, supposed to have been stamped upon the mind from the first instant of its existence, as contradistinguished to those which it afterwards gradually acquires from without. Locke undertook to demonstrate that ideas are not innate: and the dispute has the greatest names arrayed on each side. There is one remark on the subject, made by Bishop Law, the patron of Dr Paley, and a zealous partisan of Locke, which has always appeared to me worthy of attention: “It will really come to the same thing with regard to the usual attributes of God, and the nature of virtue and vice, whether the Deity has *implanted* these instincts and affections in us, or has framed and disposed us in such a manner—has given us such power, and placed us in such circumstances, that we must *necessarily acquire* them.”—LAW’s *Translation of Archbishop King on the Origin of Evil*.—P. 79 (note.)

with which it is occupied—the external world, and to study that mind in its isolation. But that is impracticable. We instantly lose our footing. We get among abstractions, darkness, and nonentity. How do you know, begins to ask the puzzled inquirer, that we have a *mind* at all? Why cannot a *body* be so constituted, as to think, and feel, and love, and hate? He is perhaps answered, that the opinion in favour of a MIND (you know that I am a zealous anti-materialist) is at any rate more probable. The science of the human mind, then, according to this, is the science of something which only *probably* exists! A fine science that must be, which deals with something which *perhaps* does not exist!”

Here is a picture of existing metaphysical science! It is, in truth, only a reflexion of some of the myriad dark shadows of all past speculation; and shall it be said that it bears a similar relation to the future? Metaphysics are called a science; and yet its main questions are—“*What are the questions!*” It deals with being, and its conditions, and yet cannot say what *being* is: and, indeed, I doubt whether it can be truly given credit for possessing one single grand truth, universally recognised as such. In short, metaphysics are to each particular mind what it chooses to make them; though undoubtedly these exertations have a tendency to sharpen its faculties. A whole life of an ingenious rational being may be occupied in

these pursuits—however irritating it may be to fond metaphysicians to be told so—without the acknowledged acquisition of a single *fact*, of one solitary, practical, substantial result. He has been doing, all the while, little else than amusing himself with a sort of mental kaleidoscope, or gazing at a series of dissolving views. He has been floundering on from beginnings in which nothing is begun, to conclusions in which nothing is concluded!

It would seem, however, that new forces are now being brought into the field, and magnetism and electricity, whether one and the same force, or different, are destined to dissolve our difficulties. According to one *quasi* philosopher, man's body is a *magnet*,\* mysteriously communicating

\* "Mesmer," says Tennemann, in his *Manual of the History of Philosophy*, "discovered, or rather re-discovered, the existence of a new force—a universally diffused power, similar to attraction and electricity, permeating and acting on all organised and unorganised bodies." Some view it simply as "a nervous fluid;" while others resolve certain recent alleged phenomena of natural and artificial somnambulism, to "the power of the mind acting directly on the organisation:" whence we have lately heard of "two new sciences—Neuro-Hypnology, and Electro-Biology." Professor Eschenmayer admits the existence of "an organic ether," spread everywhere, and subtler than light; and with this view "connects his mystical and spiritual metaphysics." Dr Passavant "shows the intimate and important relation between the science and the sublimest sentiments of *religion*!" and Dr Ennemoser can trace "the connection and distinction of the highest degree of Mesmerism, and—*Miracles*!" What will be said of these things, a few centuries hence? Shall we be laughed at for laughing at them—if our age *do* laugh at them? Or does a discriminating philosophy detect in action, amidst a mass of absurdity, and even fraud, startling indications of physical truth?

with other bodies, and external objects, without any *visible* medium ; and this discovery is destined, say the professors of the new science, to cast a new light on the nature of being, of life, death, sleep, spirit, matter—and *theology* ! Apparently one of our own countrymen has anonymously announced the exhilarating discovery, that man is a mere electro-chemical machine, in common with all the lower animals, of what sort or size whatsoever !\* “ The mental action,” quoth this sage, “ is identical, except in degree: it may be imponderable and intangible—the result of the action of an apparatus of an electric nature ”—I am quoting his words—“ a modification of that surprising agent which takes magnetism, heat, and light, as other subordinate forms: electricity being almost as metaphysical as ever mind was supposed to be. . . . Mental action passes at once into the category of natural things ; its old metaphysical character vanishes in a moment, and the distinction between *physical and moral* is annulled.” There is a stride indeed !—the stride, to be sure, of an impudent child. According to him, my friends, we in this room may behold in our-

\* “ If mental action *be electric*,” says the anonymous and very quaint writer alluded to—the author of *The Vestiges of the Natural History of Creation*, “ the proverbial quickness of thought—that is, the quickness of the transmission of sensation and will—may be presumed to have been brought to an exact admeasurement ! . . . Mental action may accordingly be presumed to have a rapidity equal to 192,000 miles in the second !—*i. e.*, the quickness with which the electric agent, light, travels !”

selves a choice assortment of electrical machines—quaintly conceiving themselves *responsible beings*!—I, giving out the sparks, chemically or mechanically—I do not exactly know or care which—and you looking on and listening to their crackling sound, with electrical sympathy and complacency! What will be the next stage of this wondrous development? It is hard to treat these things gravely; yet they have been, and are, widely *and sedulously* disseminated in the present day, in this country—in this, the nineteenth century! With what object? And what measure must have been taken, by those who do so, of the intellect of the age?

How refreshing is it, to recollect, amidst all these results of never-ending, and often impious trifling with the grandest subjects with which man can concern himself, the sublime and authoritative declaration of Holy Scripture, *There is a SPIRIT in man; and the inspiration of the Almighty giveth them understanding!* \*

What, therefore, shall we conclude? That MIND remains, at present, whatever revelations may be in store for future times, the great insoluble mystery it ever was, so far as relates to its constitution and mode of action? That we have no evidence of its faculties being greater, or less, now, than they ever were; and that, judging merely from the past, we have no grounds for expecting alteration

\* Job xxxii. 8.



for the future? It may be, that such knowledge is too high for us, and that for wise purposes we *cannot* attain to it, and that the absence of it does not affect the object with which man was placed upon the earth.—I am myself strongly disposed to think that every person who has meditated upon the operations of his own mind, has occasionally, and suddenly, been startled with a notion that his mind possesses qualities and attributes of which he has *nowhere* seen any account. I do not know how to express it, but I have several times had a transient consciousness of mere ordinary incidents then occurring, having somehow or other happened before, accompanied by a vanishing idea of being able even to predict the sequence. I once mentioned this to a man of powerful intellect, and he said, "So have I." Again—it may be that there is more of truth than one suspects, in the assertion which I met with in a work of Mr de Quincey's, that *forgetting*—absolute forgetting—is a thing not possible to the human mind. Some evidence of this may be derived from the fact of long-missed incidents and states of feeling suddenly being reproduced, and without any perceptible train of association. Were this to be so, the idea is very awful; and it has been suggested by a great thinker, that merely perfect memory of everything, may constitute the *great book* which shall be opened in the last day, on which

man has been distinctly told that the secrets of all hearts shall be made known; for *all things are naked and opened unto the eyes of Him with whom we have to do.\**

Man's mind, I must take the liberty of repeating, is indeed a mystery to him. In the mean time, let restless metaphysical speculators go on, if they please, amusing and puzzling each other with theories and hypotheses to the end of time; only, my friends, let not ourselves be drawn within their meshes, but consider whether life, thought, *and the sense of responsibility*, have not been given to us for infinitely wiser and greater purposes, however awfully mysterious, than to exhaust our faculties in endless and nugatory inquiries. Investigations of this kind, nevertheless, are not in all points of view to be deprecated, but may possibly be attended with morally beneficial results. "It is of great use to the sailor," says Locke, "to know the length of his line, though he cannot, with it, fathom all the depths of the ocean. It is well he knows that it is long enough to reach the bottom, at such places as are necessary to direct his voyage, and caution him against running upon shoals, that may ruin him. Our business here is to know, not all things, but those which concern our conduct. If we can find out those measures whereby a rational creature, put in that state in which man is in this world, may, and

\* Heb. iv. 13.

ought, to govern his opinions and actions depending thereon, we need not be troubled that some other things escape our knowledge."\* And, finally, be it observed, that we have no authority from revealed religion, for repressing what are called metaphysical speculations, however little direct encouragement it may afford them;—and even if their result be only to prove their futility, that, of itself, constitutes a signal fact.

It will be observed that I have been hitherto dealing with the so-called science of the mind, simply as the subject of human speculation. How REVELATION deals with man, physically, mentally, and morally, remains to be seen. Contenting ourselves for the present, with the undoubted *existence* of intellect, and its action, somehow or other; and postponing the consideration of the cognate subject of ethics, or moral science, it may not possibly be

\* *Essay on the Human Understanding*, book i. chap. i. § 6. A little further on, this profound thinker thus admirably proceeds: "Men extending their inquiries beyond their capacities, and letting their thoughts wander into those depths where they can find no sure footing, it is no wonder that they raise questions, and multiply disputes; which never coming to any clear resolution, are proper only to continue and increase their doubts, and to confirm them at last in perfect scepticism. Whereas, were the capacities of our understandings well considered, the extent of our knowledge once discovered, and the horizon found which sets the bounds between the enlightened and dark parts of things; between what is, and what is not, comprehensible by us, men would perhaps, with less scruple, acquiesce in the avowed ignorance of the one, and employ their thoughts and discourse with more advantage and satisfaction in the other.

deemed presumptuous if one venture to express an opinion, that the intellect of the present age appears, *cæteris paribus*, in as high a state of general development as has been known on the earth; and that it may even be doubted whether there be not now among us—I speak of ourselves and other civilised nations—men of an intellectual strength approaching that of the most illustrious of our recorded species. But in saying this, I rely only on the evidence afforded by the recent progress and the present state of *physical* science. If we have made, as I feel compelled to think is the case, no real advance in psychological science for ages, how vast has been that of physical science, within the last half, or even quarter of a century!

Go back for a moment, in imagination, to the times when this earth was thought the fixed centre of the universe and an extended plain,\* the heavenly bodies mere glittering specks revolving round it! — when Thales, a great philosopher, one of the seven wise men of Greece, conceived amber to have an *inherent soul* or essence, which, awakened by friction, *went forth and brought back the light particles* floating around (such were his ideas of

\* This notion is not yet apparently banished from among ourselves even. “I remember,” says the present Astronomer-Royal, “a man in my youth—my friend was in his inquiries an ingenious man, a sort of philosopher—who used to say he should like to go to the edge of the earth and look over!” — *Airey’s Lectures on Astronomy*, p. 46, 2d edit., 1848.

its electrical qualities !)—when the great Aristotle taught that the heavenly bodies were bound fast in spheres which revolved with them round our earth—the bodies themselves being motionless—the first sphere being that in which the fixed stars are placed ; then the five planets ; the sun ; and, next to the earth, the moon : the earth itself being at rest, and the centre of the universe ! But time would fail me to recapitulate these marks of what we call primitive simplicity ; and your memories will quickly suggest them, far lower down than to the times of astrology and alchemy. How stand we now ? Little though we know, by our own research and reasonings, concerning our own inner man, what have we not come to know of the world in which we live, and our physical relations to it ; of the wonderful structures of ourselves, animals, and vegetables ; of the glorious heavens around and about us ? Man is indeed a wonder to himself, and lives amidst an incomprehensible and ever-increasing wonder. Let us merely glance, for a moment, at one or two of the leading features of modern physiology, of chemistry, mechanics, astronomy, and geology.

The whole earth has been converted into man's observatory ; in every part of which he is incessantly, simultaneously, and systematically at work, and communicating, and comparing, each with the other, their results. What would Aristotle say, Lord Bacon standing by with gladdened heart,

were he to be told of the astronomical, geological, magnetic, and physiological observations, researches, and experiments at this moment going on in every quarter of the globe to which adventurous man can penetrate; observations and experiments conducted by those who act strictly in concert, and in rigorous adherence to universally recognised rules and principles of inquiry and experiment? That the greatest intellects of the age are ever at work, patiently methodising, combining, and comparing, the results thus obtained, and deducing from them inferences of the last importance? What relation do ages of our past history bear to a single year *thus* spent?

We have thoroughly dissected, for instance, the human and almost all known animal structures—those of the present tenants of every element; correcting innumerable errors, and developing extensive and important relations and analogies. The result is, to overwhelm, and almost crush our small faculties with the evidences of transcendent wisdom and beneficence. The subdued soul can only murmur, *Marvellous are Thy works, and that my soul knoweth right well!*

A word about anatomy, human and comparative, with reference to some recently promulgated conclusions of deep significance and interest.

The human structure seems to have been nearly exhausted anatomically, even as far as relates to the nerves, except, perhaps, as to microscopical

researches, now being actively prosecuted, and with very important results. This remark, however, applies only to the *facts* of human anatomy : on the significance or meaning of those facts, quite a new light seems dawning. Man now, by his own researches, finds that he is indeed, as God had ages before told him, *fearfully and wonderfully made* ; and the enlightened and pious philosophy of the present day recognises as a fact, on the authority of revelation, which has recorded it in language of ineffable awe and sublimity, that the human species came upon this planet solely in virtue of a direct act of creation by the Almighty. *God created man in His own image—in the image of God created he him. And the Lord God formed man of the dust of the ground, and breathed into his nostrils the breath of life ; and man became a living soul.* “He did not merely possess it,” observes Mr Coleridge ; “he *became* it. It was his proper being ; his truest self ; the man in the man. All organised beings have life, in common, each after its kind. This, therefore, all animals possess, and man as an animal. But in addition to this, God transfused into man a higher gift, and specially imbreathed even a living—that is, self-subsisting—soul ; a soul having its life in itself.”\*

Philosophy reverently owns that it knows of no other clue to *beginnings*, than that thus vouchsafed

\* *Aids to Reflection.* Introd. Aphorisms, ix.

exclusively and positively by revelation. In examining the human structure, however, and comparing it with that of animals in general, a new and grand evidence has lately been afforded of the unity of the divine action; supplying the last argument required, and left untouched by the famous Cudworth, to refute the old atheistic doctrine of Democritus and his followers—who, it will be remembered, resolved the existence of men and animals into the fortuitous concourse of atoms—by demonstrating the existence, in the Divine Mind, of a pattern, or plan, prior to its manifestation in the creation of man. “The evidence,” says the great physiologist, to whom we are indebted\* for this noble contribution to science and natural theology—I mean Professor Owen, who I believe has carried comparative anatomy much beyond the point at which it had been left by his illustrious predecessor Cuvier—“the evidence of unity of plan in the structure of animals, testifies to the oneness of their Creator, as the modifications of the plan for different modes of life, illustrate the beneficence of the designer.” Human anatomy has thus acquired a new interest and significance. Man is no longer regarded as though he were distinct in his anatomy from all the rest of the animal creation; but his structure is perceived to be an exquisite modifica-

\* See *The Archetype and Homologies of the Vertebrate Skeleton*, and *On the Nature of Limbs*. By Richard Owen, F.R.S. 8vo.



tion of many other structures, the whole of which have now been recognised as modifications of one and the same general pattern. Every one of the two hundred and sixty bones which may be enumerated in the human skeleton, can be unerringly traced in the skeletons of many hundred inferior animals; and the human anatomist of our day begins to comprehend the nature of his own structure, in a way never dreamed of by his predecessors. Thus, as it appears to me, is supplied a splendid addition to the treasures of natural theology.

"Of the unity of the Deity," says Paley,\* "the proof is the *uniformity of plan* observable in the system." And let me interpose the remark, that every day is accumulating upon us proofs of this sublime doctrine.

"We never get amongst such original, or totally different modes of existence, as to indicate that we are come into the province of a different creator, or under the direction of a different will. . . . The inspection and comparison of *living* forms add to the argument without number." And that, in some respects, incomparable writer proceeds to instance a series of similitudes between all animals, which "surely bespeak the same creation and the same creator." Thus wrote Paley just half a century ago—in 1802: had he been now living, how he would have hailed this discovery of

\* *Natural Theology*, chap. xxv.—"Of the Unity of the Deity."

Owen, in this our own day ! I am aware that, when it was first announced, suspicions were for a moment entertained, in one or two quarters, that it tended to afford a colour to what had been called the "*Theory of Development*"\*—of which I have reason to know that there is no more determined opponent than Professor Owen himself—that is, that during an endless succession of ages, one class of animals was "developed" from another. I have thought much, as far as I am able, about this matter, and own that I see not the slightest grounds for connecting a real and great discovery with a preposterous theory—such as I believe no living philosopher of the slightest note would venture to stamp with the sanction of his authority ; and even he or they, if there be more than one concerned, who have vamped up "*The Vestiges of Creation*," have never ventured to affix their names to the performance. There is not, indeed, a tittle of evidence to support the derogatory

\* In Mr Hugh Miller's *Old Red Sandstone*, a charming little record of his own interesting and valuable contributions to geological science, will be found some just and contemptuous observations on the *Theory of Development*, chap. iii. In speaking of Lamarck, the whimsical author, if so he may be regarded, of this same theory, Mr Miller drolly observes—"Lamarck himself, when bringing home in triumph the skeleton of some huge salamander or crocodile of the *lias*, might indulge consistently with his theory in the pleasing belief that he had possessed himself of the bones of his grandfather—a grandfather removed, of course, to a remote degree of consanguinity, by the intervention of a few hundred thousand '*great-greats*.'"

notion that man is the result of a change gradually brought about in any inferior animal. It is simply a gratuitous absurdity—a repetition of one long exploded—that animals, when placed in new circumstances, *alter*, and are then capable of propagating such alteration; that if new circumstances be only given time enough to operate, the changes may be such as to constitute a new series! This old nonsense has been recently revived and spuriously decked out with the spoils of modern science, so as to arrest the attention of the simple for a moment; only, however, to be quickly repudiated by even them, and then again forgotten, but doubtless to be again reproduced out of the

“Limbo large and broad, since called,  
The Paradise of Fools,” \*

when the exposure of its absurdity has been forgotten—reproduced as one of the persevering but abortive efforts of infidelity, to subvert the foundations of morality, social order, a future state, and the belief of a personal superintending Deity governing his creatures with reference to it.

I cannot quit this branch of the subject without bringing before you a recent, and a most interesting and splendid illustration of the pitch to which comparative anatomy has reached in this country—one which renders its conclusions absolutely inevitable. The incident which I am about to mention

\* *Paradise Lost*, book iii.

exhibits the result of an immense induction of particulars in this noble science, and bears no faint analogy to the magnificent astronomical calculation, or prediction, whichever one may call it, presently to be laid before you.

Let it be premised, that Cuvier, the late illustrious French physiologist and comparative anatomist, had said, that in order to deduce from a single fragment of its structure, the entire animal, it was necessary to have a *tooth*, or an entire articulated *extremity*. In his time, the comparison was limited to the external configuration of bone. The study of the *internal* structure had not proceeded so far.

In the year 1839, Professor Owen was sitting alone in his study, when a shabbily-dressed man made his appearance, announcing that he had got a great curiosity which he had brought from New Zealand, and wished to dispose of it to him. Any one in London can now see the article in question, for it is deposited in the Museum of the College of Surgeons in Lincoln's Inn Fields. It has the appearance of an old marrow-bone, about six inches in length, and rather more than two inches in thickness, *with both extremities broken off*; and Professor Owen considered, that to whatever animal it might have belonged, the fragment must have lain in the earth for centuries. At first he considered this same marrow-bone to have belonged to an ox—at all events to a quadruped;

for the wall or rim of the bone was six times as thick as the bone of any bird, even the ostrich. He compared it with the bones in the skeleton of an ox, a horse, a camel, a tapir—and every quadruped apparently possessing a bone of that size and configuration; but it corresponded with none. On this he very narrowly examined the surface of the bony rim, and at length became satisfied that this monstrous fragment must have belonged to *a bird!*—to one at least *as large as an ostrich*, but of a totally different species; and consequently one never before heard of, as an ostrich was by far the biggest bird known. From the difference in the *strength* of the bone, the ostrich being unable to fly, so must have been unable this unknown bird: and so our anatomist came to the conclusion that this old shapeless bone indicated the former existence, in New Zealand, of some huge bird, at least as great as an ostrich, but of a far heavier and more sluggish kind. Professor Owen was confident\* of the validity of his conclusions, but could communicate that confidence to no one else; and notwithstanding attempts to dissuade him from committing his views to the public, he printed his deductions in the Transactions of the Zoological Society for the year 1839, where fortunately they

\* The paper on which he even sketched the outline of the unknown bird, is now in the hands of an accomplished naturalist in London—Mr Broderip.

remain on record as conclusive evidence of the fact of his having then made this guess, so to speak, in the dark. He caused the bone, however, to be engraved ; and having sent a hundred copies of the engraving to New Zealand, in the hopes of their being distributed and leading to interesting results, he patiently waited for three years—viz., till the year 1842—when he received intelligence from Dr Buckland, at Oxford, that a great box, just arrived from New Zealand, consigned to himself, was on its way, unopened, to Professor Owen ; who found it filled with bones, palpably of a bird, one of which was three feet in length, and much more than double the size of any bone in the ostrich ! And out of the contents of this box the Professor was positively enabled to articulate almost the entire skeleton of a huge wingless bird, between TEN AND ELEVEN FEET in height, its bony structure in strict conformity with the fragment in question ; and that skeleton may be at any time seen at the Museum of the College of Surgeons, towering over, and nearly twice the height of the skeleton of an ostrich ; and at its feet is lying the old bone from which alone consummate anatomical science had deduced such an astounding reality : the existence of an enormous extinct creature of the bird kind, in an island where previously no bird had been known to exist larger than a pheasant or a common fowl !

In the vast and deeply interesting department of human knowledge, however, of which I am speaking, the eager inquirer is sternly stopped, as by a voice saying, "Hitherto shalt *thou* come, and no further;" and he is fain to obey. As the metaphysician is unable to tell us what constitutes the mind, so it is with the physiologist, with reference to LIFE. His most rigorous analyses have totally failed to detect what is the precise nature of that mysterious force, if one may use the word, which we designate by the word "Life!" He sees its infinitely varied modes of existence and action; but *what it is* that so exists and acts, is now as completely hidden from the highly-trained eye of the modern physiologist, as it was from the keen and eager eye of Aristotle. We cannot even conjecture its nature; except, perhaps, by vaguely suggesting electricity, magnetism, galvanism, or some such modification of ethereal force; while the high philosophy of this age regards all these as being only agents used as subtler *media* for manifesting the phenomena of life than flesh and bone, but not a whit more *life* than they. Language has been exhausted in attempting to express the various notions of it which have occurred to the profoundest of mankind. Thus Newton knew nothing of what constituted gravitation, but could tell only the laws which regulated its action. Nor, to recur for a moment to a topic already touched, do we

know, nor are we able to conjecture, how the soul of man exists in conjunction with his body. That it has, however, a separate, independent, immaterial existence, being as distinct from the body as is the house from its inhabitant, and is not the mere result of physical functions or forces, but endued with the precious and glorious gift of immortality, I suppose no one doubts, who wishes to be considered a believer in the Christian religion, or to rank as a Christian philosopher. The doctrine of materialism is not now that of the philosophical world; and I think that the number of votaries of that doctrine, never great, is fast declining. The philosophy of the present age does not pretend to see anything impossible, or unreasonable, in the soul's absolute independence of the body, with which it is so incomprehensibly united, and from which it so mysteriously takes its departure.—I again repeat, that at present I am dealing with the matter as one of only *human* speculation. And as man has hitherto been baffled in all his attempts to discover the nature of life, so has it been with him in respect of death. The awful question of the Almighty himself to Job remains unanswered—*Have the gates of death been opened unto thee? or hast thou seen the doors of the shadow of death?*

Is it, however, permissible to imagine some future NEWTON of physiology or chemistry, or both united, consciously on the verge of solving the tre-



mendous problem, what constitutes LIFE?—agitated as Newton was when approaching the discovery of gravitation, but persevering, till at length the awful mystery lies exposed to his trembling eye!—The vitality of all human, animal, and vegetable existence, in all its modes and conditions, as absolutely demonstrable as any physical fact at present cognisable by the sense and understanding of man! One's mind falters at the contemplation. And what might be the effect, on the being of mankind, of so stupendous a discovery? With what powers would they become thenceforth invested? And is the other great question—the mind, its real nature and relations to the body—also to be in like manner settled?—and man's relations to the dread future in some measure perceptible even while in this life? It is easy to ask; but what mortal shall answer? even centuries upon centuries hence, if so long last the state of things with which man is concerned! Let us, then, humbly return to the point from which we started.

And we may hear the profound comparative anatomist of this our enlightened day, in surveying constantly accumulating proofs—each indicating, in every direction, the endlessness of omnipotent resources, and of the wisdom and goodness of the ever-blessed Creator—exclaim, in the sublime language of Scripture, placed on record more than four thousand years ago: *Ask now the BEASTS, and*

*they shall teach thee ; and the FOWLS of the air, and they shall tell thee. Or speak to the EARTH, and it shall teach thee ; and the FISHES of the sea shall declare unto thee : Who knoweth not in all these, that the hand of the Lord hath wrought this, in whose hand is the soul of every living thing, and the breath of all mankind.\**

The generation and use of *mechanical* power will ever distinguish the age in which we live, not only when tested by its astonishing practical and daily-developing results, but when referred to the mental energy which has led the way to them. "Almost all the great combinations of modern mechanism," says Sir John Herschel, "and many of its refinements and nicer improvements, are creations of *pure intellect*, grounding its exertions upon a moderate number of very elementary propositions in theoretical mechanics and geometry." "On this head," he justly adds, "not volumes merely, but libraries, are requisite to enumerate and describe the prodigies of ingenuity which have been lavished on everything connected with machinery and engineering."† Which of us that saw that true wonder of our time, that visible and profoundly suggestive epitome and sum of man's doings since he was placed on this planet, the Great Exhibition of 1851 — a spectacle, however, apparently passing

\* Job x. 7-10.

† *Discourse on the Study of Natural Philosophy*, pp. 63, 64.

out of the public mind without having had its true significance adequately appreciated—would not recognise as one, but still only one, and a minor, yet resplendent feature, its rich array of evidences of the truth of these remarks? There, mechanical power was seen in every known form of manifestation and application, as it is in action at this moment, “diffusing over the whole earth,” to quote again this distinguished philosopher, “the productions of any part of it; to fill every corner of it with miracles of art and labour, in exchange for its peculiar commodities; and to concentrate around us, in our dwellings, apparel, and utensils, the skill of all who in the present and past generations have contributed their improvements to the processes of our manufacture.”\*

Who is not, so to speak, dumb with wonder when he contemplates the agency of STEAM and ELECTRICITY? which may really be said to have altered, within a very few years, and to be every hour altering, the relations of man to his fellow-creatures and towards external nature—giving him a power over the elements, such as no human intellect in any age, in its boldest flights of speculation, ever even dreamed of his being able to acquire? Whatever may be the nature of that subtle, inscrutable, all-pervading force, which presents many of its effects to us under the various

\* *Discourse on the Study of Natural Philosophy*, p. 64.

names of Electricity, Magnetism, Galvanism—Electro-magnetism, and Magneto-electricity ; and whatever its hidden, or at all events indeterminate relations to light, heat, motion, and chemical affinity—or whether these, or any of them, are distinct affections of matter, correlative, and having a reciprocal dependence\*—it is certain that our great chemists, both at home and abroad, with Faraday at their head, are patiently prosecuting profound researches, which have already been attended with splendid results, and justify us in believing that we are almost on the threshold of some immense discovery, affecting not only our whole system of physical science, but the social interests of mankind. “The agents of nature,” said Sir John Herschel, some twenty years ago, “elude direct observation, and become known to us only by their effects. It is in vain, therefore, that we desire to become witnesses to the processes carried on with such means, and to be admitted into the secret recesses and laboratories where they are effected.”† How far God may permit the keen eye of man now to penetrate into these *arcana* of creation, who shall say ?

Look at the beautiful and practical uses to which we are already able to put these mystic forces or

\* GROVE *On the Correlations of Physical Forces* ; and ANSTED'S *Elementary Course of Geology*.

† *Disc. Nat. Phil.*, p. 191.

elements—Light, and Electricity. By the assistance of the latter, we may be said to have vastly altered our relation to both Time and Space. Let us look for a moment to the past, and then to the future. To the past, when mankind could communicate together orally only, and no further than voices could carry; then, as far and as fast as writing and mechanical means of transit could convey; but now, how is it? Our converse with each other is literally with lightning swiftness; under ocean,\* through the air; from one person unseen to another unseen; in different latitudes and longitudes; and, ere long, in different hemispheres! The land is rapidly being covered with a network of electric apparatus for the transmission of thought. We already communicate with ease, under the sea, with Ireland and France! The whole Continent is now nearly connected thus together. I myself, in September last, saw the electric telegraph in process of traversing the Alpine altitudes and solitudes, and could not help often pausing to think how soon those filmy conductors might be transmitting words pregnant with the fate of nations! Then I thought of one of the earliest uses to which the electric tele-

\* Messages can now be *interchanged* by the submarine telegraph, between London and Paris, in thirty or forty minutes: why need it require a fourth of the time? I am told, on high authority, that it is hoped shortly to have the observatories of Paris and Greenwich in *absolutely simultaneous* action! Arago has recently stated that the only hindrances at present existing are of a temporary and local nature, in this country.

graph was put in this country ; when the murderer's flight from the still-quivering victim of his fiendish passion, was long anticipated by the dread conductors along the line by which he was swiftly travelling in fancied impunity, but only to drop, affrighted, into the arms of sternly expectant justice.\*

What, again, may not by and by be the fruits of our present extensive and unremitting researches on the grand subject of terrestrial magnetism,† and

\* The murderer Tawell.

† It was, I believe, our countryman, Roger Bacon, who nearly six centuries ago first discovered the property of the magnet in pointing to the North Pole. Mr Faraday, our illustrious living countryman, has recently made a discovery in magnetism which has been pronounced "beyond doubt the most important contribution physical science has received since the discoveries of Newton concerning the law of force in gravitation, and the usual action of that force." It is, that those substances which the magnet cannot attract it *repels*: and whilst those which it *does* attract arrange themselves parallel to the magnetic axis, those which it repels arrange themselves *exactly across it*—that is, at right angles—in an equatorial direction. This is the great governing law above referred to by Mr Ansted, and in terms by no means exaggerated. Since this paper was read, Mr Faraday announced, in his deeply interesting Lecture at the Royal Institution, on the 21st January 1853, the results of a long series of recent nice magnetic experiments by himself, establishing that the doctrine hitherto received, as to the action of the magnetic force, cannot be true. These results prove in only apparent inconsistency with those obtained by the eminent German chemist, Plucker—that, of two or more different bodies, the most diamagnetic is more so, *in relation to the others*, at increasing distances from the magnet. The observations of both Faraday and Plucker disprove the law of magnetic actions being inversely as the square of the distance. That there is a magnetic relation between the Earth and the Sun, Mr Faraday demonstrated by the remarkable fact, that there is an *exact coincidence* between the variation of the Sun's spots, and that of the Earth's magnetism—a *decennial* change, the existence of which had been established by Colonel

its connection with the influence of the sun? Is it impossible, is it unreasonable, is it in any way unphilosophical, to conceive that in time there may be established new relations, of an amazing character, between our own planet and the starry system around it? I asked this question, the other day, of a distinguished philosopher, and he answered that such speculations were by no means visionary.

Let us pause for a moment only, to contemplate man with his two wondrous instruments—the microscope and the telescope—of which he has been in possession but two centuries, yet what has he not discovered by them? By their aid he stands trembling, astounded, between TWO INFINITUDES!—beholding, in the language of a gifted Frenchwoman, a world in every atom, a system in every star! \* His soul is dissolved in awe, as though he had been admitted for a moment near the presence of the Almighty Maker of the universe. His faculties are confounded, alike by contemplating the vast and the minute. Distributed everywhere throughout the world, in every element, in the internal moisture of living plants and animal bodies, carried about in the vapour and dust of the whole

Sabine, in conformity with the results of careful observation made by MM. Schwabe and Lamart, on the corresponding variations of the Sun's spots and the magnetic needle.

\* Madame de Stael. "Chaque monde peut-être n'est qu'une atome, et chaque atome est une monde." See also HERSCHEL's *Disc. on Nat. Phil.* 115.

atmosphere of the earth, exists a mysterious and infinite kingdom \* of living creatures, of whose existence man had never dreamed till within the last two centuries, when his senses were so prodigiously assisted by the microscope! He now beholds, as I and many of us have beheld, a single drop of water instinct with visible, moving, active—ay, and evidently happy life, myriad-formed—every individual consummately organised by our own omniscient Maker! Within the space of a single grain of mustard-seed may be witnessed eight millions of living beings, each richly endowed with the organs and faculties of animal life! Many of them, moreover, are beautiful exceedingly, and of perfect symmetry and proportion. “Who can behold,” says an eminent living microscopist, (Mr Prichard,) “these hollow living globes, revolving and disporting themselves in their native elements with as much liberty and pleasure as the mightiest monster in the deep—nay, a series of such globes, *one within the other*, alike inhabited, and their inhabitants alike participating in the same enjoyment—and not exclaim with the Psalmist: ‘How wonderful are thy works, O Lord! *sought out* by all them that have pleasure therein!’”† When we attempt to fix our faculties on such objects as these, we are apt to lose the control over them, and to become powerless amidst conflicting conditions of

\* PRICHARD on *Infusoria*, pp. 1, 2; edit. 1852.    † *Ibid*, p. 2.

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wonder and perplexity. What are the *purposes* of all these stupendous acts of creation, preservation, and incessant reproduction? And why is man permitted, and thus late in his history, these tremulous glances into infinity? The more he sees, the more assured he becomes, that what he sees must be absolutely as *nothing* to what he might see, were his faculties only a very little increased in strength. "Every secret which is disclosed, every discovery which is made, every new effect which is brought to view, serves to convince us of numberless more which remain concealed, and which we had before no suspicion of."\* What has now become of our former notions of the *minute*? I cannot answer for others; but the states of mind into which the contemplation of these subjects has often thrown me, is beyond the power of description. "In wonder," finely observes Mr Coleridge, "all philosophy began; in wonder it ends; and admiration fills up the interspace. But the first wonder is the offspring of ignorance; the last is the parent of adoration. The first is the birth-throe of our knowledge; the last is its euthanasia and *apotheosis*."†


But what language is brilliant or strong enough

\* Bishop BUTLER, *Sermon xv.—Upon the Ignorance of Man.*

† *Aids to Reflection*, Aphorism ix. p. 178, edit. 1843. The aphorism is followed by a brief series of profound and instructive reflections, headed *Sequelæ, or Thoughts suggested by the preceding Aphorism.*

to afford the faintest conception of man's discoveries in the heavens by means of his telescope, and the transcendent exertions of his intellect which it has called forth? Let us see if we can indicate a few results, and a very very few only, in these radiant regions.

To our naked eye are displayed, I believe, about three thousand stars, down to the sixth magnitude; and of these, only twenty are of the first, and seventy of the second magnitude. Thus far, the Heavens were the same to the ancients as they are to ourselves. But within the last two centuries our telescopes have revealed to us countless millions of stars, more and more astonishingly numerous, the farther we are enabled to penetrate into space! Every increase, says Sir John Herschel, in the dimensions and power of instruments, which successive improvements in optical science have attained, has brought into view multitudes innumerable of objects invisible before; so that, for anything experience has hitherto taught us, the number of the stars may be really infinite, in the only sense in which we can assign a meaning to the word. Those most recently rendered visible, for instance, by the great powers of Lord Rosse's telescope, are at such an inconceivable distance, that their light, travelling at the rate of 200,000 miles *a second*, cannot arrive at our little planet in less time than *fourteen thousand years*! Of this I am assured by one of our greatest living



astronomers. Fourteen thousand years of the history of the inhabitants of these systems, if inhabitants there be, had passed away, during the time that a ray of their light was travelling to this tiny residence of curious little man! Consider, for a moment, that that ray of light must have quitted its dazzling source *eight thousand years* before the creation of Adam! We have no faculties to appreciate such ideas; yet are these realities, or there are none, and our fancied knowledge is illusory.

Let us here pause for one moment in our breathless flight through the starry infinitude, and ask our souls to reflect on the Almighty Maker of all! Let us fall prostrate before Him, and ask with trembling awe, What real idea have we of HIS OMNIPRESENCE? He is present everywhere, for everywhere he unceasingly acts; but how this is, we feel to be beyond our limited faculties. *Such knowledge is, indeed, too high for us—we cannot attain to it;* but He has vouchsafed to tell us that *His throne is in heaven.* Let us learn the impious absurdity of attempting to judge of the Deity by our own notions of great or small, or possible or impossible. What were the thoughts and feelings that led La Place to atheism, we do not know; but how different was the effect of these visions of glory upon the mind of our own immortal Newton! How they expanded and elevated his

conception of Almighty power and wisdom ! Let his own sublime words speak for themselves : " GOD is eternal and infinite, omnipotent and omniscient ; that is, HE endures from everlasting to everlasting, and is present from infinity to infinity. He is not eternity or infinity, but eternal and infinite. He is not duration or space, but HE endures, and is present. HE endures always, and is present everywhere ; and by existing always, and everywhere, constitutes duration and space." \*

Returning, for a moment, to the subject which we have quitted, let us ask, with Sir John Herschel—*For what purposes* are we to suppose such magnificent bodies scattered through the abyss of space ? Again, we can now detect binary, physically binary, stars ; that is to say, a primary, with a companion actually revolving round it. " This," says Captain Smyth,† " is the wonderful truth opened to view, that two suns, each self-luminous, and probably with an attendant train of planets, are gyrating round their common centre of gravity under *the same dynamical laws which govern the solar system* ; that is, not precisely like our planets round one great luminary, but where each constituent, with its accompanying orbs, revolves round an intermediate point or fixed centre !

\* From the *Scholium*, annexed to the PRINCIPIA.

† P. 285. Printed for private circulation only, but presented by the eminent author to the writer, for the purposes of this paper.

This is a great fact, and one which, in all probability, Newton himself never contemplated."

What, again, are we to say to the splendid spectacle, and what can be the conceivable condition of existence which it indicates, of richly vari-coloured double stars—of ruddy purple, yellow, white, orange, red, and blue! The larger star is usually of a ruddy or orange hue—the smaller, blue or green! "What illumination," says Sir John Herschel, "*two suns*—a red and a green, or a yellow and a blue one—must afford a planet, circulating about either! And what charming contrasts and grateful vicissitudes—a red and a green day, for instance, alternating with a white one, and with darkness—might arise from the presence or absence of one or *both* above the horizon!"\* What gorgeous scenes are these for the imagination of man to revel in!

Again, we have at length accomplished the feat, deemed by the greatest astronomers, till within even the last few years, absolutely impossible, of measuring the distance of a fixed star. We have accomplished this in two instances:—The nearest,† one of the brightest stars in the Southern Hemisphere, is at *twenty-one millions of millions* of miles' distance; that is, its light would require three years and a quarter to reach us. The second‡ is not nearer to us than *sixty-three billions*

\* HERSCHEL'S *Astronomy*, p. 395. † α, *Centauri*. ‡ 61, *Cygni*.

of miles off, and its light requires upwards of ten years to reach us. These inconceivable distances have been measured to the utmost nicety, and, as the Astronomer Royal recently explained to a popular audience, really by means of a common yard-measure ! But what proportion is there between even these enormous distances, and those of the newly-discovered stars above spoken of, whose light requires fourteen thousand years, travelling at the rate of two hundred thousand miles a second, to reach us ? It is absurd to suppose that either figures, or, indeed, any other mode of communicating ideas to the mind of man, can enable him to appreciate such distances.

Again, man, little man, can positively ascertain the weight of the Sun and his planets, including even the remotest—Neptune—of which I have more to say presently ; and, as a matter of detail, can express that weight in pounds avoirdupois, and down even to grains ! Think of man weighing the masses of these wondrous, enormous, and immensely distant orbs !

Again, are we really aware of the rate at which we, on our little planet, are at this moment travelling in space, in our orbit round the sun ? I have, within the last few days, put one of our best practical astronomers to the trouble, which he most courteously undertook, of computing our rate of transit through space in our journey round our cen-

tral luminary; and here I give you his results. While I was journeying yesterday from London to Hull—some 200 miles—the planet, on which we were creeping by steam-power, had travelled some 410,000 miles through space! So that we are, while I am speaking, whirling along, without being in the least physically sensible of it, at the rate of upwards of 68,000 miles an hour\*—more than a thousand miles a minute—and nineteen miles between two beats of a pendulum, or in a second of time. I ask again—*Do you ever attempt to realise such bewildering facts?*

Nor is this all—I may surprise some present by assuring them that the earth is believed, by all our great astronomers, to have at this moment, not two motions only, but *three!*—one round its axis, which we can make evident to the very eye; another round the sun; but what of the *third?* A most remarkable, and equally mysterious fact: that the sun and all his planets are moving with prodigious velocity, through space, at the rate of a hundred and fifty millions of miles a-year, towards a particular point in the heavens, a star [λ] in the constellation Hercules! “Every astro-

\* While the earth moves 68,305 miles an hour, Mercury moves more than 100,000 miles; whence chemists use his symbol to denote *quick-silver*. While we are disposed to regard this as a rapid motion round the sun, what must the inhabitants of Neptune, who travels only three and a half miles a second, think of us, who are whirling round the sun at six times the speed of Neptune?

nomer who has examined the matter carefully," says the present Astronomer Royal, "has come to the conclusion of Sir William Herschel, that the whole solar system is moving bodily towards a point in the constellation Hercules!"\*

What means this? and how can we sufficiently estimate the critical and refined observations and calculations by which the fact is established? If we be thus sweeping through the heavens, the constellations must be altogether altered to the eyes of our remote posterity. And dare one dream for a moment of our little globe being ordained to encounter obstruction in its pathway, and being suddenly split into fragments by some huge orb, or inflicting a similar fate on one as small as, or smaller than, itself? Splendid stars have suddenly appeared, and as suddenly disappeared from the heavens, leaving us no means whatever of conjecturing the cause of these phenomena.†

Again, the sun,‡—which we feel, which we see,

\* *Lectures on Astronomy*, 2d edit. 1849.

† On the evening of the 11th November 1572, Tycho Brahe, the great Danish astronomer, on returning from his laboratory to his dwelling-house, was surprised to find a group of country folk staring at a star, which he was certain had not existed half an hour before. It was so bright as to cast a perceptible shadow. It surpassed Jupiter at his brightest! and was visible at mid-day. In March, 1574, it disappeared totally and for ever. Is there not here an infinite field for conjecture? And this is by no means the only similar instance of the kind.

‡ I am informed by an astronomical friend, that the most recent observations confirm the supposition that the sun is a black opaque



and observe; which dazzles us every day; which rises and sets, as we say, magnificently every morning and evening—remains a profound mystery with reference to its nature, and how its supply of light and heat is maintained. “How so enormous a conflagration,” says Sir J. Herschel, “is kept up, is a great mystery, which every discovery in either chemistry or optics, so far from elucidating, seems only to render more profound, and to remove farther the prospect of probable explanation.”\*

Yet once more. We are making latterly, almost monthly, discoveries in the heavens, of a most remarkable character, with reference to certain small bodies known by the name of Ultra-Zodiacal planets. I have paid close attention to them, and received constant information on the subject from that able and vigilant astronomer, Mr Hind.† Listen, now, to a true tale of wonder:—Between the orbit of Mars and Jupiter, there is, according to an undoubted and remarkable law of progress of pla-

body, with a luminous and incandescent atmosphere, through which the solar body is often seen in black spots, frequently of enormous dimensions. A single spot seen with the naked eye, in the year 1843, was 77,000 miles in diameter. Sir John Herschel, in 1837, witnessed a cluster of spots, including an area of 3,780,000 miles! The connection between these spots, and the earth's magnetism, has been already alluded to. *Ante*, p. 69, Note II.

\* HERSCHEL'S *Disc. on Nat. Phil.*, p. 313. *Astron.* 212.

† This gentleman's recent publication, entitled *The Solar System; a Descriptive Treatise upon the Sun, Moon, and Planets, including all the Recent Discoveries*, (Orr & Co., London,) 1852, is by far the best extant, for its accurate and comprehensive treatment of the subject in its most recent aspect. The price is almost nominal.

netary distance in our system, a space of three hundred and fifty millions of miles; and this immense interval had no known tenants up to the commencement of the present century. But so great an *unoccupied* space was long ago found to be an interruption of this order of planetary progression of the magnitudes of the planetary orbits: a curious discovery of the Prussian astronomer Bode. After long and deep revolving of the subject, he conjectured that a planet, now wanting, must have existed in this vast interval of space; and that one might, in time, be discovered there. Imagine, therefore, the astonishment with which, during the first seven years of the present century, four little planets—Ceres, Juno, Pallas, and Vesta—were discovered, *within this very interval*, revolving in most eccentric orbits! “It has been conjectured,” said Sir John Herschel, writing about twenty years ago, “that these planets are *fragments of some greater planet*, formerly circulating in that interval, but which has been blown to atoms by an explosion; and that more such fragments exist, and may be hereafter discovered. These may serve as a specimen of the dreams in which astronomers, like other speculators, occasionally and harmlessly indulge.”\* A dream? Will it be believed, that within this last seven years, no fewer than TWENTY more of these mysterious tenants of

\* *Astron.* p. 277.

that identical interval of space have been discovered!—NINE of them within this very year, 1852—the last of them by Mr Hind, on the 18th of this present month of December! Are not these, as it were, the elements of an astronomical romance?—The orbits and motions of these little planets are all of the same character, and may be truly said to exhibit excessively complicated vagaries, such as are very likely to bring them into collision with each other! And in the opinion of astronomers, the most reasonable explanation of these astonishing phenomena is, that this zone of planets really consists of the fragments of some great one shattered by an internal convulsion!

To what reflections does not such a possibility (and no one is entitled, as I believe few are now disposed, to call it chimerical) give rise! If the supposition be true that these bodies are planetary fragments, was the globe of which they once formed part destroyed by an internal explosion, or by external collision, or in any other way, under the fiat of the Deity? Was it inhabited at the time, and by beings like ourselves? And was it their destruction? And as we cannot entertain the impious supposition that this possible result was occasioned by accident or negligence, dare we indulge in speculation as to the hidden economy of the heavens, administered by the Omniscient?

But let us now descend for a moment to our own tiny planet, to ask one or two questions concerning it. Its polar and equatorial diameters differ by only twenty-six and a half miles; and the greater of the two—the equatorial—is 7925 miles. When we talk of “descending into the bowels of the earth,” therefore, we had better use less ambitious phraseology, and consider our excavations as being, in Sir John Herschel’s language, mere scratches of the exterior only; for our deepest mines have never penetrated lower than to the ten-thousandth part of the distance between the earth’s surface and its centre.\* As far as scientific researches enable us to conjecture, we should conclude that when our earth was first set in motion,† it must have been

\* HERSCHEL’S *Discourse*, 288.

† In one of Sir Isaac Newton’s *Four Letters to Dr Bentley*, and which are worth their weight in gold to every inquiring mind, occurs the following memorable passage. To the second question of Dr Bentley, Sir Isaac replied, that the present planetary motions could not have sprung from any natural cause alone, but were impressed by an intelligent agent. “To make such a system, with all its motions, required a Cause which understood and compared together the quantities of matter in the several bodies of the Sun and planets, and the gravitating powers resulting thence; the several distances of the primary planets from the Sun, and of the secondary ones from Saturn, Jupiter, and the Earth, and the velocities with which these planets could revolve about those quantities of matter in the central bodies; and to compare and adjust all these things together, in so great a variety of bodies, argues that Cause to be not blind and fortuitous, but very well skilled in mechanics and geometry.” In his *Optici* (Query 28) this great man asks—“How came the bodies of animals to be contrived with so much art, and for what ends were their several parts? Was the eye contrived without skill in optics, and the ear without know-

somewhat soft, in order to have produced its present undoubted spheroidal form.\* But what is the real nature of the earth's interior? Transcendental mathematics fully recognise the principle of internal fluidity or fusion; while all our actual observations point to the existence of heat in a greater degree the lower we go. M. Humboldt, indeed, tells us that, at only thirty-five miles' distance from the earth's surface, "the central heat is everywhere so great, that *granite itself is held in fusion!*"† Our internal fires seem to find a vent by means of earthquakes and volcanoes.

Is this planet of ours destined, then, to share the conjectured fate of that whose fragments are still circulating in space around us, and being in such rapid succession discovered by our vigilant watchers of the heavens?

Once more, however, let us ascend into the resplendent regions which we have so suddenly quitted, in order to alight upon, and scrutinise a mere speck among them—to advert to an astronomical discovery that will for ever signalise our age, as the result of a vast stretch of human intellect, one that would have gladdened the heart of New-

ledge of sounds?" Doubtless his mind had present to it the sublime question of the Psalmist: *He that planted the ear, shall he not hear? He that formed the eye, shall he not see?*—Psalm xciv. 9.

\* And the earth was without form and void, and darkness was upon the face of the deep; and the Spirit of God moved upon the face of the waters.—Gen. i. 2.

† *Kosmos*, vol. i. p. 273.

TON himself. I allude to the discovery, six years ago, of the planet Neptune.

In the year 1781, Sir William Herschel at once almost doubled the boundaries of the solar system, by his brilliant discovery of the planet Uranus,\* at the distance of eighteen hundred and twenty-two millions of miles from the sun, and travelling in his orbit in thirty thousand six hundred and eighty-six days, or fifteen thousand five hundred miles an hour. This dignified visitant has a diameter of thirty-six thousand miles, and is attended by six satellites during his eighty-four years' tour round his and our central luminary. Thus much for *Uranus*.

Many years afterwards, certain differences were observed by French and English astronomers between this planet's true places, and those indicated by theoretic calculation; and at length it was suggested that the cause might be attributed to the perturbing influence of *some unseen planet*. They thought, however, that if this were really the solution of these differences between calculation

\* Uranus was the father of Saturn; and the Prussian astronomer, Bode, suggested, that as the new planet was next to Saturn, it should be called by the name of Uranus. M. La Place, however, generously insisted on its bearing the name of its English discoverer. It passed, however, by the name of the *Georgium Sidus*, in compliment to Geo. III., the munificent patron of astronomical science, until the year 1851, when, in the Nautical Almanac of that year, it was called by the name of Uranus—a change made with the disinterested concurrence of the present Sir J. Herschel, the modest son of the great discoverer. See Mr HIND's *Solar System*, p. 119.

and observation, it would be almost an impossibility to establish the fact, and ascertain the unseen planet's place in the heavens. This was the deliberate opinion of M. Eugene Bouvard, one of the greatest French geometers of the day. Nevertheless, Mr Adams, an English, and M. Le Verrier, a French astronomer, unknown to, and entirely independently of each other, commenced a series of elaborate and profound mathematical calculations, proceeding on different methods, to solve the great problem, which was thus stated by M. Le Verrier:—"Is it possible that the inequalities of *Uranus* are due to the action of a planet situated in the ecliptic, at a mean distance double that of *Uranus*? If so, *where is the planet actually situated, what is its mass, and what are the elements of its orbit?*" Our distinguished countryman, Mr Adams, a Fellow of St John's College, Cambridge, and whom I saw receive the gold medal of the Royal Society, as some token entertained of his transcendent merits as a mathematician, had directed his attention to this matter in the year 1843—his object being to "ascertain the probable effect of a more distant planet;" and he succeeded in obtaining an approximate solution of the *inverse problem of perturbations*; that is to say, given—certain observed disturbances; to find the positions and paths of the body producing them. In other words, the great planet *Uranus* was occasion-

ally disturbed in his course by the attraction of an *unknown body*; and the object was to determine the fact without waiting for the visible existence of that body.

It would be vain to attempt to make the nature of these grand calculations\* popularly intelligible; nor am I mathematician enough to presume to make the attempt. These twin sons of science were supremely successful. On the 23d September 1846, the splendid stranger became visible, in diameter about forty-two thousand miles†—that is, upwards of five times that of our earth, and attended by at least one visible satellite. Neptune performs his stately journey round the sun, from which he is distant two thousand eight hundred and fifty millions of miles, in one hundred and sixty-six years, or sixty thousand six hundred and twenty-four days!

Thus not only did these two astronomers point out where this huge distant orb would be found in such immensely distant space, but weighed its mass, numbered the years of its revolution, and told the dimensions of its orbit!

Would that France and England might never

\* Till within the last thirty years, it was considered that our English mathematicians were inferior to their Continental brethren in the higher departments of mathematics; but I believe it is generally admitted that the former are now equal to any in the world.

† Mr Hind says about thirty-one thousand.



again be seen in any but such glorious rivalry as they thus exhibited, in the persons of these their highly-gifted sons;—who, by the way, must be acknowledged by the unknown philosopher of whom I spoke some time ago, to have been certainly a very superb pair of electrical calculating machines!

What, however, is the above, or what are any other discoveries, when placed by the side of that of Gravitation by the immortal Newton? This, it were hardly extravagant to regard as an exercise of celestial genius, by which it seemed to have gained the true key to the motions of the whole universe. The whole material universe, says Sir David Brewster, was spread before the discoverer of this law: the Sun with all his attendant planets—the planets with all their satellites; the comets whirling about in every direction in their eccentric orbits; and the system of the Fixed Stars, stretching to the remotest limits of space!\*

The minds of even ordinary men expand, but at the same time droop, while contemplating such amazing and unapproachable intellectual power as this. Dr Thomas Brown, one of the most distinguished modern Scottish teachers of mental and

\* *Life of Newton*, p. 153. When Newton began to find his calculations verifying the sublime discovery of the law of gravitation, he became too agitated to pursue them, and intrusted the completion of the details to a friend. When before has any other human breast vibrated with anxieties such as these?

moral philosophy, thus speaks of Newton : " The powers and attainments of this almost superhuman genius, at once make us proud of our common nature, and humble us with a sense of our disparity. If," he continues, " the minds of all men, from the creation of the world, had been similar to the mind of Newton, is it possible to conceive that the state of any science would have been at this moment what it now is, or in any respect similar, though the laws which regulate the physical changes in the material universe had continued unaltered, and no change occurred, but in the simple original susceptibilities of the mind itself?" What a question for a speculative mind !

But it is time to ask, why are we thus wandering amid the splendid solitudes of heaven? Why, to echo a question already hinted at, has man been *permitted*, thus late too in his history, to make himself so far, if one may so speak, familiar with infinitude? He sinks from these dazzling regions bewildered and overwhelmed; as though the Finite had been paralysed by momentary contact with the Infinite; and is relieved to find himself once again upon his little native earth—his appointed home, and scene of pilgrimage and probation. Here again, however, he finds everything unexhausted, inexhaustible, accumulating upon, and overwhelming him, whichever way he turns. Yet a new light gleams upon him, while he directs his

wandering eyes towards the inner portions of the crust of that earth which he had trod for so many ages, without dreaming of what was lying beneath, and destined one day to be exposed to his wondering eyes. What would have been the effect on Aristotle's mind, of our geological discoveries? Man now perceives indubitable traces of past scenes of existence, of which all his recorded history has said nothing; traces apparently reserved, in the Providence of God, to be examined and pondered in only these our own times, after so many ages of concealment. Far beneath the surface of the earth, we discover the fossilised remains of its ancient tenants, who seem to have occupied the globe at different periods—probably, too, at vast intervals, and under widely different, but perfectly appropriate, circumstances and conditions. They appear to have been placed upon it at a given period, for a specified purpose, in a determined order; and having unconsciously accomplished that purpose, they mysteriously disappear, but in a wonderful order, and leave behind them the still visible and incontestable proofs of their past existence. O, how eloquent, how deeply suggestive are these mute vouchers of past economies! instituted and sustained by one and the same Almighty Being, who, by the word of His power, upholds present existence! Many of these remains appear to us huge and monstrous;

and huge and fearful they undoubtedly seem to have been, beyond any creatures inhabiting the earth within our time.— *Our time?* What do I mean? Who are **WE**? **MAN**: concerning whom all geology is, with an awful significance, absolutely *silent*, through all its centuries and ages, how continuous and remote soever they may be, since it owns that it has to deal only with times **anterior to the appearance** of Man upon the appointed scene of his lordship—a scene which geology shows to have been carefully prepared for him. No, not the faintest trace of his presence, his footsteps, or his handiwork, can be detected in any of the pages of this stony volume, wherever it has hitherto been opened, though examined never so minutely;—he is as absolute a stranger as though he were not at this moment, and never had been, a denizen of the planet! This negative eloquence of geology has always appeared to me profoundly suggestive. None of its researches in any part of the globe have hitherto succeeded in bringing to light one single fragment of the fossilised frame of man, in any undisturbed geological formation, by which is meant those portions of the earth's crust to which, though the most recent formations in geology, geologists assign a much higher antiquity than any reached by history. It is true that some petrified human skeletons have been found, as, for instance, in that part of the shores of the island of Guadaloupe where

the percolation of calcareous springs speedily petrifies everything subjected to their influence. There is a solitary specimen of a petrified skeleton, found at that island under such circumstances, now to be seen in the British Museum; and which a celebrated anatomical friend of mine regards, on account of certain peculiarities in the pelvis, as having been the skeleton of a negro. If this be so, its date must be, of course, subsequent to the discovery of Guadalupe by Europeans.\* It is not, in other words, the skeleton of one of the Caribs, the original inhabitants; and cannot be more than between two and three hundred years old. One or two other human skeletons have been found, which may be similarly accounted for.

Thus, then, the new and brilliant science of geology attests that man was the last of created beings in this planet. If her *data* be consistent and true, and worthy of scientific consideration, she affords conclusive evidence that, as we are told in Scripture, he cannot have occupied the earth longer than *six thousand years*.†

Sir Isaac Newton's sagacious intellect had arrived at a similar conclusion from different premises, and long before the geologist had made his researches and discoveries. "He appeared," said one who conversed with him not long before his death, and has carefully recorded what he justly styles "a re-

\* A.D. 1493.

† HITCHCOCK, *Religion of Geology*, p. 157.

markable and curious conversation," "to be very clearly of opinion, that the inhabitants of this world were of a short date; and alleged as one reason for that opinion, that all arts—as letters, ships, printing, the needle, &c.—were discovered within the memory of history, which could not have happened if the world had been eternal; and that there were visible marks of ruin upon it, which could not have been effected by a flood only."\*

Man cannot shut his eyes upon the actual revelations of geology, any more than he can upon the written revelations contained in the Scriptures. It were foolish, nay dangerous, and even impious, to do so. We may depend upon it that God designed us, and permitted us, for wise purposes, to make these astonishing discoveries, or He would have kept them for ever hidden from our sight; and, forsooth, shall we then turn round upon our Omniscient Maker, and venture to tell Him that He is contradicting His written word? What a spectacle for men and angels! The Creature and its Creator, the Finite and the Infinite, at issue! For indeed it would, and must needs be so. Infinite Goodness and Wisdom have presented to us the Scriptures as being the eternal truth of God, who has so accredited it to the faculties which He himself has given us for discovering truth, that we

\* BREWSTER'S *Life of Newton*, p. 365.

have reverently received it as such ; countless millions of His creatures have lived and died in that belief, and among them the mightiest intellects—the best and greatest of our species ; and yet it is to be imagined that they have all had only a *strong delusion* sent them *that they should believe a lie*, and in that lie should live and die ! Nay, but let us not thus judge the Deity, who does not deceive his creatures. Yea, *let God be true, but every man a liar.*

If, then, the written word of God be true, His works cannot contradict it, however our folly and presumption may make it for a time so appear ; and, on the opposite assumption, we are to suppose that the Author of Nature has expressly revealed to us, in this latter day, some of the former conditions of the earth, only in order to contradict His own written Word previously given to us for our guidance in this transitory scene of being ! And is this, then, to be the sum and substance of the good which geology has done mankind ? It is not so—it cannot be so ; nothing but weakness or wickedness can thus wrest geology from its true tendency and purpose, and convert it from a witness to the truth, into a proof of falsehood.

One who may perhaps be regarded as exhibiting the highest condition of the intellect of this age, and thoroughly imbued with the spirit of philosophy—of which he is its leading exponent and

representative—has placed on record his deliberate conviction that “the study of natural philosophy, so far from leading man to doubt the immortality of the soul, and to scoff at revealed religion, has, on every well-constituted mind, a natural effect directly the contrary. The testimony of natural reason,” continues Sir John Herschel—for it is he of whom I speak—“on whatever exercised, must of necessity stop short of those truths *which it is the object of revelation* to make known; but while it places the existence and principal attributes of a Deity on such grounds as to render doubt absurd, and atheism ridiculous, it unquestionably opposes no natural or necessary obstacle to further progress.

. . . . The character of the true philosopher is to hope all things not impossible, and to believe all things not unreasonable.” He proceeds, in an admirable spirit, to say, that we must take care that the testimony afforded by science to religion, be its extent or value what it may, shall be at least independent, unbiassed, and spontaneous; and he reprobates not only such vain attempts as would make all nature bend to narrow interpretations of obscure and difficult passages in the sacred writings, but the morbid sensibility of those who exult and applaud when any facts start up explanatory, as they suppose, of some Scriptural allusions, and feel pained and disappointed when the general course of discovery in any department of



science runs wide of the notions with which particular passages in the Bible may have impressed such persons themselves. By such it should be remembered that, on the one hand, truth can never be opposed to truth—and, on the other, that error is to be effectually confounded only by searching deep and tracing it to its source.\*

Thus far Philosophy, in a true and noble spirit; and it is specially applicable to the subject of Geology.

Geology is to be regarded as a science in gigantic infancy, promising a truly marvellous manhood. It is one so essentially adapted to excite the imagination, that professors of the science are required to exercise a severe restraint upon that faculty; and, discarding all tendency to theorising, approach the sufficiently astounding facts with which they have to deal, in a cold and rigorous spirit of philosophical investigation. It is hard to many to approach it without disturbing prepossessions; and those who cannot get rid of them may, if diligent observers, accumulate facts, but must be content to leave greater intellects to deal with them. This important science has had to contend with great disadvantages—some of them peculiar; but it is overcoming them, and will continue to do so. I shall not indicate what I conceive these peculiar disadvantages to be, because they will occur to any one

\* HERSCHEL, *Disc. on Nat. Phil.* pp. 7-10.

who has even only moderately directed his attention to this splendid subject. As long as the facts of geology are carefully ascertained, and dealt with simply as facts, as those of all other sciences, and it be not attempted to put them together prematurely, and announce confidently the particular tendency which they may really only *seem* to indicate, while their true bearing is in quite an opposite direction—so long, but so long only, geologists may depend upon it that they are contributing to the formation of a science destined, perhaps, to eclipse all others except astronomy, and even rival it. Geology depends on the continual accumulation of observations carried on for ages. If the geologists of the present day should forget this fact, and breathlessly begin to construct theories and systems on the strength of a few coincident facts, they may hereafter be regarded as mere children, and not as philosophers conscious of the grandeur of the inquiries in which they are privileged to take part. The great hope, however, of geology is, the sobriety and system with which great numbers of qualified observers are simultaneously prosecuting their inquiries and experiments in so many quarters of the earth at once. Its structure affords already conclusive evidence not only of formations singularly in unison with each other, though at immense distances, but also of the operation of vast forces, in past ages, of only a conjectural character and mode of opera-

tion. Let any one go through the Alps, as I did lately, and the most hasty glance at the confused position of the *strata* will satisfy him that geology has to deal with facts dislocating all suggested hypotheses.

It is, however, the organic remains, animal and vegetable, which are found in these various *strata*, where they have lain hidden for a long series of ages, that present geology in its most attractive aspect, and give the reins to the imagination. What are we to say, for instance, to the visible remnants of a monster, partaking of the nature of a fish and a crocodile, the eyes of which are of such magnitude that each requires a string five feet long to surround it—the diameter of the orbit being eighteen inches? How hideous must such an object have appeared! \* There are few of our leading museums that are not enriched with fossil remains of these strange stupendous animals, pointing indubitably to a long succession of ages, when creatures of this kind, with their appropriate animal and vegetable aliment, seem to have had this earth of ours entirely to themselves. This is a state of facts for which our minds were quite unprepared, and with which we may not even yet be competent to deal soberly. I shall, however, quit this deeply interesting subject, with the remark, that

\* These dimensions exist in the fossil remains of an *Ichthyosaurus* to be seen in the Geological Museum, in King's College, London.

as astronomy expands our conceptions of splendour and space, so geology enlarges our ideas of duration and time; while both these magnificent sciences, the farther they are prosecuted, supply the more conclusive and awe-inspiring evidence of the unity of the Creator. And finally, we may safely concur in the observation of an eloquent American writer on these subjects,\* that the merest child in a Christian land, in the nineteenth century, has a far wider and nobler conception of the perfections of Jehovah, than the wisest philosopher who lived before astronomy had gone forth on her circumnavigation of the universe. He might have added, and before geology had disclosed His mysterious handiwork in our own inner earth.

Let me, however, now point out a recent fact, which appears to me to have a marvellous significance, and perhaps a designed coincidence. While men were, and continue to be, busily exploring the earth in search of traces of long past existence, endeavouring to establish its vast antiquity, and the changes which it has undergone, we may suddenly behold, reverently be it said! the dread finger of the Deity silently pointing to that same earth, as containing unerring evidence of the truth of HIS WRITTEN WORD. Let us wend our wondering way to Nineveh, and gaze at its extraordinary excavations. *There* are indeed seen

\* Dr HITCHCOCK, *Religion of Geology*, p. 416.

those traces of man which geology has never found; man as he existed near four thousand years ago; man as he acted and suffered; man as he became the subject of God's judgments; man, whose fate had been foretold by the messengers of God! Here behold an ancient and mighty capital, and its cruel and idolatrous people, as it were reproduced before our eyes, and disinterred from the dust and gloom of ages!

O ye *men of Nineveh!* are you indeed already *rising up before us, to condemn us?* \*

To my mind these contemplations are pregnant with instruction, and invested with awe. I cannot go to our national museum, and behold there the recently-disinterred monuments of past Assyrian existence, without regarding them by the light of the Scriptures; nor afterwards read the Scriptures, without additional light reflected upon them from these wondrous discoveries. May I, for instance, be really looking upon the idol Nisroch,† of whom I read in Holy Writ, and of the royal parricides of whom it speaks? *So Sennacherib King of Assyria departed, and went and returned, and dwelt at*

\* *The men of Nineveh shall rise up in the judgment with this generation, and shall condemn it: for they repented at the preaching of Jonas; and, behold, a greater than Jonas is here.*—Luke xi. 32.

† See Mr Layard's admirable and deeply interesting *Nineveh and its Remains*, of which a cheap abridgment, with numerous woodcuts, was published by himself in 1851, entitled, *A Popular Account of Discoveries at Nineveh*, p. 47.

*Nineveh. And it came to pass, as he was worshipping in the house of Nisroch his god, that Adrammelech and Sharezer his sons smote him with the sword ! \**

Surely, surely, we live in an age of wonderful discoveries and coincidences; and it must be our fault if we do not profit by them, as it is our duty to make the attempt.

It seems to me that no rightly-constituted mind can ponder these subjects without being deeply and beneficially affected. It is in vain, however, to reason with one whose mind is insolently made up to treat them with contempt, and to disregard accumulating evidence a hundredfold stronger than induces it to act confidently in the most important concerns of life. A disposition of this kind may in time be visited by a judicial blindness. Let those, on the contrary, of a nobler character, but who have been agitated by doubts from which perhaps few are free, reflect on the benignant dispensation which enables us, by new discoveries in science, to comprehend much that was previously dark in God's revelation through the Scriptures. The book of nature having been thus opened to us for so grand a purpose, may we not humbly hope that that book will not be closed again, before everything that forms still a stumbling-block to belief be removed? There may have been scoffers in

\* 2 Kings, xix. 36, 37.

former days, whom the discovery to which I am alluding would have startled, and silenced. Had Lord Shaftesbury, and those who thought with him, lived in this our time, let us express a hope that they would be now proclaiming what they once denied; and we cannot be sufficiently thankful to the Supreme Disposer of Events, that it has pleased Him to reserve ourselves, on whom it may be that the ends of the world are come, for a season of greater light!

Let, then, the geologist go on with his researches, and double his discoveries; nay, indefinitely increase their number and significancy. Let him, if he please, and think himself entitled to do so—and it has been sarcastically said that *time* is a cheap commodity with geologists—talk of his millions and millions upon millions of ages, if he think his eye really capable of piercing so far back into eternity. If he be right, he shall never satisfy me that my God is wrong; for *I know in whom I have believed*:—

He is his own interpreter,  
And He will make it plain!

And now the current of our inquiries is bringing us in view of objects and ends demanding our most serious attention.

We have been hitherto inquiring into the INTELLECTUAL development of the age in which we live; and for that purpose have had to pass in rapid

review the state of knowledge, and of consequent power, to which the exertions of the human intellect have brought us. We have endeavoured to show that we have no sufficient reason for believing that the intellect of man has either increased or diminished in absolute strength or capacity, as far as we have any means of judging of its action, when fitting occasions arose to develop its energies; that all our researches into the nature of intellectual existence and action have failed of bringing us satisfactory results; that we know that we live, though not how we live; we think, but *know* not how we think; and that it may perhaps have been so ordained by Infinite Wisdom, that impassable bounds should be placed to the anxious and insatiable curiosity of man. I am speaking, I repeat again, solely at present of *human* means and sources of knowledge. One observation, faintly alluded to at the commencement of this paper, surely must, by this time, have forced itself upon us: that while the retrospect of six thousand years—from which I exclude our first parent, whose intellect originally, and before he had darkened the glorious image and likeness in which he was made, may have been endowed with powers transcending all conception by his degenerate though still gifted successors—shows mental philosophy to have been, comparatively speaking, stationary, physical discovery has



made, and that latterly, advances so prodigious. Let us attempt in imagination to realise the space gone over, by supposing that greatest among the ancient philosophers, Aristotle, placed in possession of our microscope; our telescope, and other astronomical instruments; our chemical and mechanical instruments, and of their amazing results; and the present state of anatomical, physiological, and geological knowledge. How would he *now* look at the earth! and at the heavens! at the elements! and at MAN? And when the astounded philosopher began at length to look for corresponding advances in metaphysical or psychological knowledge, what should we say? What would he think?

Again, let us suppose ourselves to wake up to-morrow morning in his day!—without steam, without magnetism, without electricity, and all the amazing results which they have effected!—without the telescope! without the microscope, and all their mighty revelations! Nay, even to descend for a moment to particulars, without our gas, without our newspapers, without, in other words, our present physical and intellectual light!—without the steamboat, the railroad, the electric telegraph! What a sudden and dreary eclipse! How confounding and intolerable to those recollecting so different a state of social existence! How we should creep and grope our way about, as

in a state of childhood ! And shall we continue our course backwards, as far beyond Aristotle's day as his beyond ours ? Let us suddenly return to our present day, passing in our flight those two great lights, at intervals of centuries, the two Bacons, Roger and Francis, and Newton ; and let us venture to anticipate the dim future, our physical knowledge and position twenty-two centuries hence, if our species shall then, in God's good pleasure, continue upon the earth, the *fiat* not having then gone forth, that *Time shall be no longer !*

Where may then be the seats of mankind ?—their language ?—their modes of communication ?—of government ?—their knowledge and use of nature, and its powers ?—of the Heavens, and the Earth's relations to them ? Will the land and the water have again changed places ? May we imagine our posterity, some two or three thousand years hence, exhuming the fossilised remains of their ancestry in every quarter of the globe accessible to the search ? Will they be speculating upon our size—so much greater, or less than, or the same as their own ?—upon our tastes, and habits, and doings ? Will our history have perished ?—or, if it survive, will it tell of us truly, or falsely ? Will the period of our existence be assigned to a date a million of ages anterior to its actual one ? Will our ignorance of the laws of

nature, as then understood, of the constitution of the human mind, be spoken of with pity and wonder?

Thus, indeed, may we dream and speculate, if we please, as to the possible future, and its conditions with reference to the present and the past. It is with *the present* that man is practically concerned; but of that present, though it may seem paradoxical to say it, both the past and the future are inevitable and essential elements and conditions. Our Now reflects the lights and shadows of what has gone before and is following, and has necessary relations to man's special and limited intellectual faculties. How different is the *Now* of man, and the NOW of his Maker! The difference involves the distinction between Time and Eternity, between the Creator and the creature, the Finite and the Infinite; and may, if pondered, afford a few trembling gleams of light upon some of the possible conditions of Omniscience. "The whole evolutions of time and ages," said More, "from everlasting to everlasting, is collectedly and presentifickly represented to God at once; as if all things and actions were, at this very instant, really present and distinct before him."\* How can mortal man address his faculties to such a subject? They are as unfit to deal with it, as the eye to hear, or the ear to see; and it is *something* even to persuade ourselves of

\* *Defence of the Philosophic Cabbala*, c. 2.

that fact and certainty. It may serve to save the soul of man from endless trouble and perplexity, and to reduce it to that condition which alone it is fitted to enjoy. But we do not sufficiently exercise ourselves in this matter. We soothe ourselves with sounds; talking as freely and unconcernedly about —omniscience, omnipotence, and omnipresence, as though they really represented to our understandings the comprehensible attributes of the incomprehensible Deity; as if “by searching” we *had* “found out the Almighty unto perfection!” I am speaking here of the mere unassisted exercise of human reason, which appears to me incompetent to deal fully with our “Now;” and the more that we endeavour to realise this fact, the better shall we find it, for both speculation and practice, in the state of things in which we are conscious that we have been placed by our Maker, and to which our faculties have been adjusted: and in which we are ordained to see through a glass darkly, and to know in part. So it *is*; and the restless, and too often insolent, spirit of man must accommodate itself to that fact; and if he do not, he will assuredly make mental and moral shipwreck. The best thinkers of the present age are those who rigorously act upon this principle, and are most on their guard against urging speculation into regions virtually forbidden to the prying of human faculties; because they are, as I have said, absolutely *unfitted* for them; as is griev-

ously evidenced by the inconsistent and contradictory character of such speculations as we have several times alluded to, the absurdities to which they lead legitimately, and their practical uselessness, and danger.

These observations may serve to connect our present topics with those touched upon before we started on our multifarious inquiries.

They remind us that our inquiry is not limited to the intellectual, but extends to the MORAL development of our species in the present age; and that again remits us to an early observation, that there are profound *relations between intellect and morality*, involving everything that concerns the highest interests of humanity.\* The truth is, that intellect stands to morality in the relation of means to an end; that the culture and exercise of the intellect are not, and cannot be, of themselves, final *objects* or *ends*, but necessarily presuppose and lead to ends. This is a doctrine as old as the great Stagyrte; who, to adopt the eloquent language of the present occupant of the pulpit of Hooker,† “laid the foundation of his ethical system in a recognition of the great truth, that *the end of man is not knowledge, but practice.* ‡

\* *Ante*, p. 8.

† Archdeacon Robinson, the Master of the Temple.

‡ Τὸ δὲ τέλος οὐ γνώσις, ἀλλὰ πράξις. (Eth. i. 3.)—The *συμμερον* and *χρησιμον* of Aristotle express both of them *non-finality*; and all “goods” coming under either designation, are only *subordinate*

"A wiser than the Stagyrite has told us that *the whole of man*—his duty, his happiness, his immortality, is comprised in this—to fear God, and to keep his commandments.\*

"But an infinitely greater than Solomon has also authoritatively told us, that the entire subjection of the soul to the obedience of FAITH, is not only itself demanded of us, but is also at the same time constituted the only avenue to further knowledge. *If any man WILL† do His will, he shall know of the doctrine whether it be of God.*"

Thus, as it were, with one stride, we have reached the goal—the final end of man—of his existence and doings; to which they all inevitably tend, and the attaining of which contributes the true and only business of life! His intellect is given him to aid in discerning that end, and to enable him to regulate his conduct in this life, so as to attain that which is beyond it—the glorious fruition of a happy Hereafter. But where are we standing? On the shore of a vast deep sea of ethical or moral philosophy; by which I mean simply, that system or theory of principles regulating man as a moral and respon-

goods, implying the existence of something higher and better. With Aristotle, that something was—happiness; with us, it should be the happiness—the only true and ultimate one—secured by salvation.

\* Eccles. xii. 13.

† The Greek has a signal significance of expression—*ὁ ἄνθρωπος θέλει τὸ θεῖον*—*τὸ θεῖον θέλει τὸν ἄνθρωπον*.

sible agent, especially in respect of its motives and sanctions.

This great subject I have approached suddenly, and, right or wrong, in the decisive spirit of one whose mind, after revolving it all his life as a matter of personal concernment, is thoroughly made up upon it. With such a subject, and with such a feeling, it were idle, and even criminal, for a moment, especially on such an occasion as this, to dally or to palter; and I shall speak humbly, and without reserve, my sincere convictions. In an early part of this paper, it is said that everything depends, in these inquiries, on taking a right point of view; for that there is one, from which all presents to the contemplative mind a lovely but awful order; and another, from which everything appears inextricable and hopeless confusion and contradiction, involving man himself, and all within and without him.

Nearly two centuries ago, Sir Isaac Newton concluded his *Optical Queries*, by a memorable prediction, as it was justly termed by Dugald Stewart, "that if Natural Philosophy, in all its parts, by pursuing the inductive method, shall at length be perfected, *the bounds of Moral Philosophy will be enlarged also.*" We have not, during the splendid times which have succeeded his own, perfected natural philosophy, but have rigorously pursued the inductive method, and thereby immensely enlarged the bounds of natural philosophy. Have we also enlarged those

of moral philosophy? In one respect we have—by incessantly accumulating proofs, each new one on a sublimer scale, of our Almighty Maker's wisdom, power, beneficence, and unity of action, and of His title to the love, adoration, and obedience of His creatures. A living successor of Sir Isaac Newton, Sir John Herschel, tells us that the steady application of the inductive system to physics, necessarily tends to impress something of the well-weighed and progressive character of science on the more complicated conduct of our social and moral relations; that it is thus that legislation and politics come gradually to be regarded as experimental sciences, founded in the moral and physical nature of man, and to be constantly accumulating towards the solution of the grand problem—how the advantages of government are to be secured with the least possible inconvenience to the governed.\* Perhaps it may be truly said, in passing, that while the steadfast progress of experimental philosophy is one of the grandest features of the age, it is not unaccompanied with danger, in so far as the spirit which it generates may be disposed to address itself, flushed with triumph, to matters which are *not the subject* of experimental treatment.

I have my own opinions concerning the science of political economy, which I need not obtrude upon you; but that legislation and politics depend on

\* *Discourse*, p. 73.



fixed principles, however difficult formally to define and agree upon them; and that those principles have relation to the moral and physical nature of man, can no more be doubted, than one can deny the existence, as a distinguishing characteristic of the present age, of a sincere desire to discern and act upon those principles. Into those questions, so unhappily intermingled with violent passions and personal interests, I shall not enter for one moment, because I am satisfied with another—and a vast one it is—what *is* the *moral nature* of man? for the determining that, and the rules of conduct conformable to it, constitute what is called Moral Philosophy. Before proceeding further, let me say, that if you wish really to ascertain the facts on which to reason with reference to man's moral nature, do not go to the speculative moralist, sitting in his library, spinning scheme after scheme of so-called morality, often only fantastic variations of those of long-forgotten predecessors; but go to the lawyer, the physician, the divine, who see human nature from day to day in its practical aspects, —those which are hidden from the eyes of mere talkers and writers, however eloquent and ingenious. The former can tell you of the actual physical and moral condition of our species, in every class of life from the lowest to the highest—even in the highest conditions of modern civilisation. Ask, again, those noble messengers of mercy, who,

with only the eye of their heavenly Father upon them, shedding around them a radiance unseen of man, go about *doing good*—visiting those hidden scenes of suffering—

Where hopeless anguish pours her moan,  
And lonely want retires to die !

Ask them, I say, ask all these classes, to whom human nature in every station, every degree of development and form of manifestation, is exposed—what they think of human nature—of man's moral nature—and what are the conclusions which *their* "experience" has forced upon them. They will tell you of a terrible amount of physical and moral EVIL in existence, *and which must be dealt with!*

Here, perhaps, steps in some philosophical moralist—first asking, how do you account for the existence of it?—and by and by another, complacently affirming, by a process of his own, that that supposed evil does *not* exist. Here we are deluged by a tide of disputation, which too often carries off and drowns those whom it overtakes. But there is also a kindred question attended with similar results: the human WILL—or liberty of action. Is there, asks another philosopher, such a thing as the Will? Can it act freely? Or is its action absolutely mechanical and necessary? What, then, are *motives*? And are men, in fact, mere machines? And, if so, what becomes of responsibility? On these questions—the two mighty

problems of moral science—has mere physical science cast a single ray of light? In spite of some dreams of the day, it may be answered, peremptorily, No. And is it to be told to those who come after us, that in England, in our supposed noontide splendour of intellect, in this nineteenth century, there are some who, to solve these questions, have at length nestled themselves in the absurd and impious old notion of PANTHEISM, and affect to believe that the universe itself constitutes God? That that awful word represents only the aggregate of everything that exists—that whatever is, is God, a substance for ever the same, and everything in existence only a necessary succession of its modes of being! Some of you will be surprised, perhaps, to hear that there are certain so-called philosophers of the present day, who seriously avow these notions; and in doing so, unavoidably remind us of some who, *professing themselves to be wise, became fools*.

It would be a vain, disheartening, humiliating attempt to exhibit the vagaries of the human intellect, in both ancient and modern times, when essaying to deal with these matters. I shall, for my present purpose, divide all existing schools of moral philosophy into two only: that which implicitly or professedly rejects Revelation; and that whose doctrines are implicitly based upon it, and may be designated as constituting Christian moral-

ity. The former offers a scheme of conduct, and of motives and sanctions producing it, independently of, and in contradistinction to, those disclosed by the Holy Scriptures; the other, a system based upon them exclusively. The one discards Revelation; the other necessarily discards that which discards Revelation.\*

Before proceeding further, in order to do justice between the rival systems, let one give up to the other *all that it has derived from that other*. Let the Bible be supposed banished from among mankind, and be as though it had never existed; but with it must also disappear every ray of light which it has ever emitted, and glistened never so faintly through the mist of mythology—not merely all that is *thought* to have been derived, but all that has *in fact* been derived from that radiant source. This must be insisted upon rigorously, as the condition of the argument. But then where are we? To me it seems as though a sun had suddenly fallen from the moral firmament; and all is darkness indeed—all relating to the present, the past, and the future; and in that darkness we grope about hopelessly. We know not how, or why, we were created, nor by

\* To a revelation there must be two parties—he who makes it, and he to whom it is made. If there *be* a revelation, the discarding it is surely a fearful matter. We have inspired authority for holding that those whom Revelation has not reached, have the law of human action written in their hearts—their conscience also bearing witness, and their thoughts the meanwhile accusing or else excusing one another.

whom ; we can account for nothing satisfactorily—only blindly guessing ; and as for the future, it is a hideous blank to us. We may have vague and perhaps torturing fears from it, but no hopes ; we can look only at a puzzling present, in which no man has a right to dictate to another ; but might is right, and right and wrong are notions of eternal fluctuation with circumstances. We seem to be unable to act otherwise than as we do ; we cannot help ourselves ; we have passions and appetites to gratify, and will do so whenever we can ; our only motives are derived from the intensity of those passions and appetites, and we have no time to lose, as life is short : so, *let us eat and drink, for to-morrow we die*—all dying alike, young, old, rich, poor, good, bad ; if, however, we annex any ideas to such distinctions.—What right, let me ask, have we to slaughter the animals, apparently equally adapted with ourselves to their respective elements, and with equal means of enjoyment ? And what conception could men form, under these circumstances, of an Almighty Maker ?

In this benighted and bewildered state, let the Bible reappear, with all its teachings and revelations, and a flood of holy light flows from it on man and everything about him. It is absolutely alone in its pretensions to AUTHORITY—as having come from the First Cause of all things, and con-

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demning every other relation as an imposture.\* It opens at once to our view our past and our future—our origin and our destiny; that we consist of an immortal soul joined to a mortal body: tells us what are our present condition and relations, not only towards each other, but towards God; what are the rules of our conduct to be observed on earth, as conditions of an after-existence; how evil came into the world, and how its consequences are to be dealt with and obviated; that the intellect and heart of man are not as originally created, but the former is clouded, and the latter corrupted; but that God *has not left himself without witness*, and has implanted in every man a sense of right and wrong—a conscience, however its functions may be disturbed and vitiated by evil habits; that He himself once, in fulfilment of prediction and promise, appeared upon earth for a while, *abolishing death, and bringing life and immortality to light*; that, after death, man shall

\* “There is one primary and capital mark of distinction,” says Bishop Warburton, “differing Judaism from all other forms of religion; it professes to come from the First Cause of all things, and it condemns every other religion for an imposture. There is nothing more surprising in all Pagan antiquity, than that, amidst their endless [alleged] revelations, *not one of them ever made such pretensions as these*; yet there is nothing which modern writers are more apt to pass over without reflection. The ancient fathers, however, more nearly acquainted with the state of paganism, regarded it with the attention due to so extraordinary a circumstance.”—*Divine Legation of Moses*, book iv. § 1.

rise, and receive judgment for the deeds done in the body—a judgment finally determining an eternal condition ; that our Maker benignantly regards us as a father his children, with whom he deals tenderly, but equitably ; that he desires the love of our whole heart and soul—that we should strive to be pure and holy, as He is ; and, finally, sums up our duty in words which none but a debased heart can disregard—*He hath shewed thee, O man ! what is good ; and what doth He require of thee, but to do justly, and to love mercy, and to walk humbly with thy God ?*

This is essentially, but in brief, the sublime code of Christian Ethics—adapted to the nature of universal man, addressing itself authoritatively to his moral nature, prescribing no rules for his conduct the propriety of which that nature does not recognise ; but, I repeat it again, speaking all this in a voice of paramount awful Authority—yet one which man is at liberty to disobey, at his peril. Now, with this code I, for one, as a poor unworthy worm of the earth, am entirely satisfied. I feel that, in proportion as I attempt and seriously strive to come up to its requirements, my moral and intellectual nature becomes dignified and happy ; and that I exhibit the highest qualities of that restored nature, exactly at the point where, unable by searching to find Him out, I trust in Him, I believe Him, implicitly.

Stepping, for a moment, out of the sunlight of this sublime system, I feel myself lowered, perplexed, disheartened, and in despair. The sum of all its teaching is, at one time, that I am a mere machine; at another, that I am impelled by no motives except those petty ones supplied by the apparent expedencies of this transient life only, and complicated calculations as to the tendency of my actions to secure a moment's pleasure or happiness, or contribute apparently to such in others. I am wholly dis severed from a future state; the grave sees the last of me; my inward sense of right and wrong is extinguished; conscience, in its character of witness, accuser, judge, is expelled from its seat, and its very existence alleged to be a dream and a figment. Those, moreover, who would thus denude me of my moral dignity, and annihilate those noble motives by which I would fain regulate my conduct, treat the source from which I derive them as a mere tissue of fictions and delusions, unworthy of being for a moment entertained by an enlightened intellect, in an enlightened age.

A French gentleman, M. Proudhon, who aspires to the character of a philosopher, has recently given out, with what one cannot but regard as an impious complacency, that the age has altogether outgrown Christianity, which, it seems, has "culminated," "hastes to her setting," and will soon "vanish



away.”\* Is, then, the intellectual and moral progress of mankind to achieve, as one of its earliest trophies, the extinction of Christianity?—of that religion which is now supreme in its hold of the intellect of all the most highly civilised nations of the earth? Where are to be found the proofs of this assertion of a presumptuous infidelity? Is not the Christian religion being at this moment rapidly propagated over the whole earth? And well it may. If its divine pretensions are to be judged of by tendencies and results, must not the bitterest enemy of Christianity admit that, were its pure and holy doctrines universally recognised and acted upon, the earth would have become a moral paradise? Envy, hatred, malice, and all uncharitableness, with every ill they induce—all fraud, hypocrisy, falsehood, violence, and lust—would they not be extinguished? Where would be cruelty, oppression, murder, war? If we are to *know* the *tree by its fruits*, have we not here, indeed, as it were, the tree of moral life, and regeneration of our species? Remove this tree, and what have we in its place? Are we to be left to the fluctuations and contradictory theories and systems of so-called moral philosophers, based on the imaginary fitness of things, and the exclusive adjustment of man to his present state of existence? Whatever I have read of

\* See *Reason and Faith*—an admirable little discourse, by Henry Rogers.

these theories, compels me to compare all *anti* or *non-Christian* schemes of morality, to mere charnel-houses of decayed and decaying opinions, exhibiting, at long intervals, new forms of putrescent vitality. As they repudiate conscience, so they disregard the heart, with all its excellences, vices, and susceptibilities; and yet it is with the *heart man believeth unto righteousness!* It is this act of belief, however, potent and glorious as it is, that some schools of modern philosophy would treat with contempt, and restrain every tendency towards it!

A writer of the present day, and an active upholder of what is called the philosophy of *Utility*—which, as I understand it, seems a dreary doctrine truly, and palsyng the noblest sentiments of our nature—in recently advocating its pretensions as the only true system of ethics, spoke sarcastically of all clerical academical teachers of morals, as having an interest in propping up doctrines to which they are pledged, and fitting their philosophy to them, for that unworthy purpose. He proceeds to say, that “the doctrines of the Established Church are prodigiously in arrear of the general progress of thought, and that the philosophy resulting, will have a tendency not to promote, but to arrest progress.” This is a confident assertion, levelled virtually at all systems of Christian ethics, if based, as are those of the Church of England, on the

fundamental doctrines of Christianity. Long may those doctrines, the doctrines of all Christians, *continue* "prodigiously in arrear of the general progress of thought," if that progress be in the direction of materialism, fatalism, pantheism, or atheism, [I am far, however, from imputing such tendencies to the writer in question, - whoever he may be,] in whatever guise it may present itself. Were such to be, indeed, the tendencies of the age, it would be in its dotage, its second childhood. Of this, however, there is no fear; for I do believe the enlightened convictions of the age to be Christian; and that, if there were now among us the giant spirits of a former day—as there assuredly are their giant disciples—a Bacon, a Newton, a Butler—they would be, as those were, reverent believers in Christianity. I can conceive of no degree of intellectual advancement going beyond Christianity. The very idea contradicts all my views of its essential, its divine character and original; and I, for one, never can help denouncing any attempt to insinuate notions to the contrary, by constructing systems of morality silently superseding the doctrines of that Christianity. I would have the test always to be, Does your system recognise, or repudiate, Christianity? and if the latter, unhesitatingly discard the system.

No one pretends that revelation does not present speculative difficulties to one disposed to look for

them, especially in a spirit of supercilious inquisitiveness, and a haughty reliance upon supposed intellectual strength; but they do not disturb him who reflects, with Butler, that those difficulties may have been ordained, and who possesses that universal solvent of doubt and difficulty, a submission and resignation to the Divine will—a faith in revelation, and the Omnipotence from which it emanated. The FAITH of the Christian is a potent reality; as much so in the spiritual, as attractive in the natural world. If the two things may be in any respect compared, it may be said to be the force which attracts the soul of man to the Deity, as to its proper centre. One who possesses it says, that revelation, whatever be its alleged difficulties—and it professes to contain things passing man's understanding—comes to him accredited by such an accumulation of evidence as overpowers all rational doubts, far transcending any amount of evidence on which he would unhesitatingly act in the most important affairs of life. All evidence seems to me nugatory, if that which supports revelation has served only to deceive honestly exercised faculties, having been permitted—impious supposition!—by a wise and gracious Providence to be arrayed in support of falsehood! But if one cannot entertain the hideous supposition, what is one to do? Yield assent, and evidence it in his life. We have this revelation—a fact inconceivably momentous. What

amount of intellect will suffice to get rid of that fact? We must look for an absolute demonstration of the falsehood of its pretensions satisfying the reason of all mankind, and compelling them to surrender their faith in a cunningly-devised fable; whereas the discoveries constantly announced, serve only to corroborate the validity of its external credentials, while the heart continues in all times and places to acknowledge the strength of those which are internal. The Old Testament and the Jews are both existing among us to this day, as a sun with its satellites, the one irradiated by the other, and indicating the existence and character of that other. That precious Book of books they are still guarding with sleepless vigilance; while "Christianity has diffused"—to quote a distinguished living scholar and philosopher—"over the world, the idea of the unity of the human race, once the solitary belief of the Jews, and obscured by their national exclusiveness. The historical philosopher, starting from this idea, has been enabled to view the development of mankind in this light of Christianity: the noblest minds of all Christian nations have recognised a visible and traceable progress of the human race towards truth, justice, and intelligence."\* Such is Christianity in its glorious mission of evangelisation—of civilising all the nations of the earth. With-

\* *Hippolytus and his Age*. By Chev. Bunsen. Vol. ii. p. 4. (1852.)

out it, there is no civilisation: or that only which is, to quote from the same learned person, "an empty word, and may be, as China and Byzantium show, a *caput mortuum* of real life, a mummy dressed up into a semblance of living reality." \* It is to Christianity alone that the world was first indebted for those noble monuments of charity and mercy which are to be found in our hospitals, infirmaries, and other similar institutions. Not a trace of them is to be found among the refined and highly cultivated Greeks and Romans. The Christian agencies, now at work to civilise mankind, are fed direct from the twin founts of inspiration and morality. They are gradually chasing away the shadows of ignorance and sensuality, and melting the manacles and fetters in which cruelty and vice have bound mankind for ages. "The whole world will be Japhetised—which, in religious matters, means, now pre-eminently, that it must be Christianised by the agency of the Teutonic element. Japhet holds the torch of light, to kindle the heavenly fire in all the other families of the one undivided and indivisible human race.†

\* *Hippolytus and his Age*, p. 9.

† "We think," says a masterly writer in the *Quarterly Review*, "there are sufficient grounds, without reference to the sacred writings, for arriving at the conclusion, that all races and diversities of mankind are really derived from a single pair; placed on the earth for the purpose of peopling its surface, in both the times before us, and during the ages which it may please the Creator yet to assign to the present order of existence here."—*Quarterly Review*,

Christianity enlightens, and only a small portion of the globe; but it cannot be stationary—and it will advance, and is already advancing, triumphantly over the whole earth, in the name of Christ, and in the light of the Spirit.”\* That Christianity has a vital influence over individuals, and the nations which they compose. The presence and the absence of it are equally recognised, seen, and felt.

What will the most delicately-adjusted scheme of ethics do for a man when the *iron is entering his soul*; when he sees long-cherished hopes blighted; when he is tortured by a sense of wrong and injustice inflicted upon him; when some dreadful incurable disease has settled upon him? Will it enable him to say, *Though He slay me, yet will I trust in Him*? Will it sustain the sinking soul of him on whose eyelids is settling the shadow of death? When we stand with bleeding heart around the grave, and hear the earth falling on the coffin of the dear being who cannot hear it, nor the dread words which accompany it—earth to earth, ashes to ashes, dust to dust—whence comes the sublime sound, *I am. the Resurrection, and the Life*,—while immortality is glowing around us, and a voice whispers, in accents of tender majesty, *It is I, be not afraid!*

vol. lxxxvi. pp. 6-7, art. “Natural History of Man.” There are also the strongest philological reasons for believing that all languages are derivable from one.

\* BUNSEN, *Hippolytus*, ii. 116-17.

Why am I so importunate on this point? Because the Holy Volume, with the morality and religion which spring from it, is everything or nothing to each and every one of us: take it away, and high as may be the intellectual and moral development of the present age, neither philosopher nor peasant has anything to supply the place of that Volume! Man has lost the only link that bound him to his Maker: he begins wildly to doubt His very existence, and the rectitude of His government: he has no clue through the labyrinth of life, and sees no adequate purpose of his existence, nor for his being endowed with such powers, and capable of such aspirations as are his; he is drifting about on the vast ocean of being, without a rudder and without a chart. But give him back that volume—let him hold fast by HIS BIBLE as the only fixed point when all else is fluctuating—and all is lovely light and order. In that light let me walk, till I in my appointed time am called away.

Here we touch the culminating point of all our inquiries.

Wherefore, friends, farewell. The light of a new year is already beaming on our brows. May we all enter, may we all leave it, in a happy and a high spirit!



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